

Attachment I

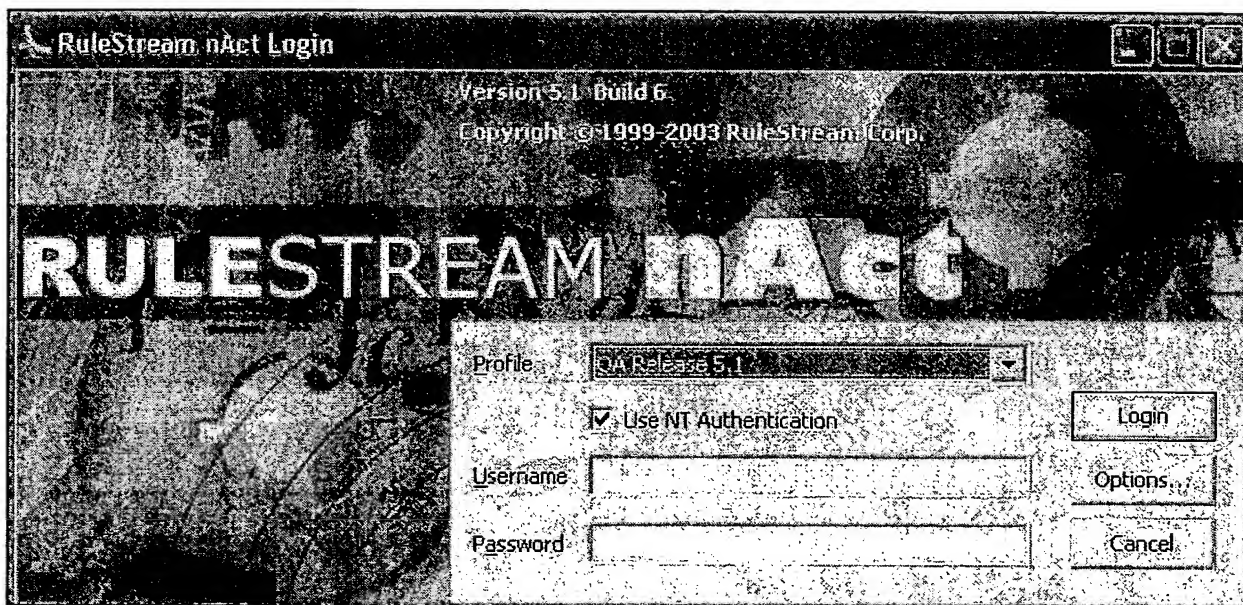
nAct Engineer

All of the following items are features within nAct along with a brief description. Click on the link to go to the detailed information regarding each item.

Click on the following links to navigate to the specified areas of nAct Help:

- [nAct Options Overview](#)
- [nAct Project Window](#)
- [nAct Designer Window](#)
- [nAct Error Messages](#)
- [nAct Reports](#)

nAct Login Window



1. Profile - Select the Profile to be used from the drop down list box.
2. Use NT Authentication - Check this box if NT authentication is to be used when logging in to nAct.
3. Username - Enter a valid user name to log on to nAct if not using NT Authentication.
4. Password - Enter a valid password to log on to nAct if not using NT Authentication.
5. Buttons -
 - o Login button - Click on this button when the Profile, and log in information has been entered to log on to nAct .
 - o Options button - Click on this button to open nAct Options.
 - o Cancel button - Click on this button to close the Login window.

nAct Options Overview

This is used to set up the various options used to determine the appearance, behavior, and functionality of nAct.

Database Profiles - Required to actually launch an application.

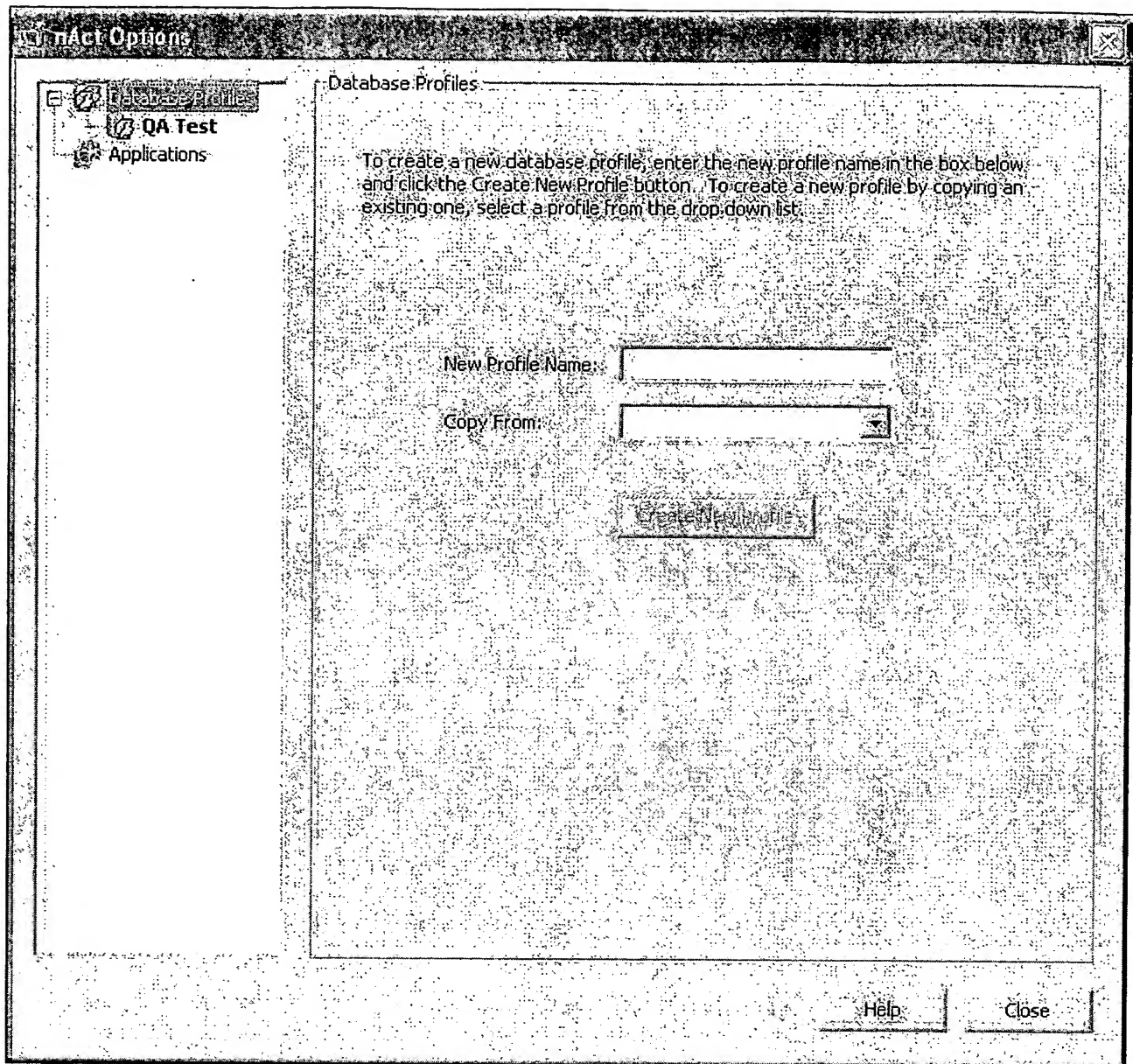
Database Setup - Required to actually launch an application.

Advanced Options - These settings:

- Define the elements of the Model Designer window.
- Specify where releases and documents get stored.
- Should not be changed unless instructed to do so by RuleStream Technical support or you System Administrator.

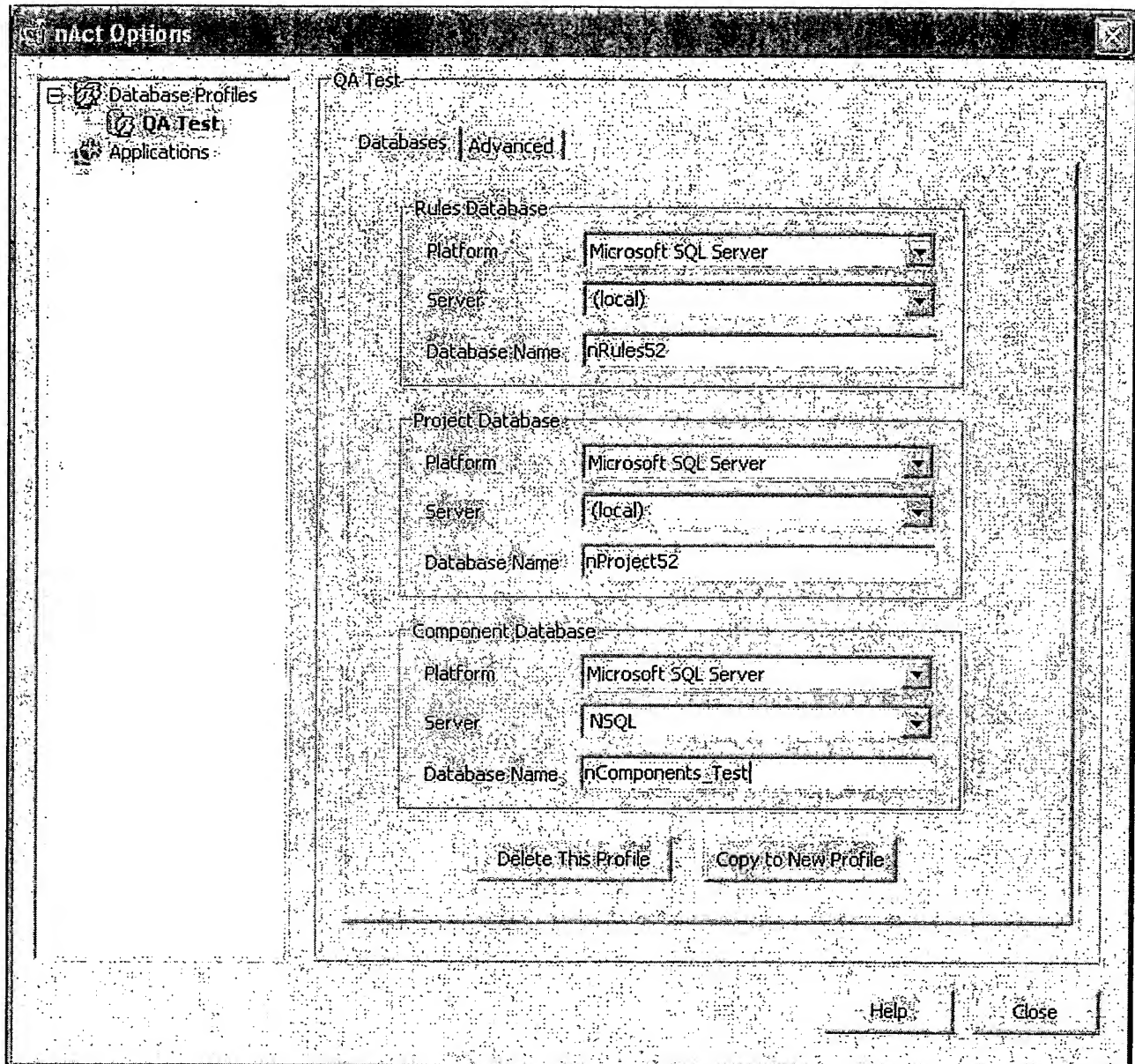
Applications - Required when compiled "Dll" is selected for the run-time mode in nAct Engineer. A "Dll" must be registered in order to edit models in nAct Sales and for Disconnected Users. Click the following to view instructions for creating a compiled "dll".

nAct Options - Profiles



1. New Profile Name - Type the name of the New Profile.
2. Copy From - Select and Profile from the drop down list to copy all of the Database and Advanced Options information from that profile. (Leave this field blank in all information is to be entered manually.
3. Buttons
 - Create New Profile - Once the New Profile Name has been entered this button becomes active. Click on it to create a new profile.
 - Help - Click on this button to display Help information.
 - Close - Click on the button to close the nAct Options window.

nAct Options - Database Set up



1. Rules Database - Database used to store the rules that were entered in nAct Expert.
2. Project Database - Database used to store the projects that were entered in nAct.
3. Component Databases - Database used to store the components for the parts.
 - *Platform* - The platform of the data source. Currently, only Microsoft SQL Server is supported for the Rules and Project databases. The Component database can be Microsoft SQL Server, Oracle or Microsoft Access.
 - *Server* - The name of the SQL Server (Microsoft SQL Server only).
 - *Database Name* - For Microsoft SQL Server and Oracle databases, this is the database name

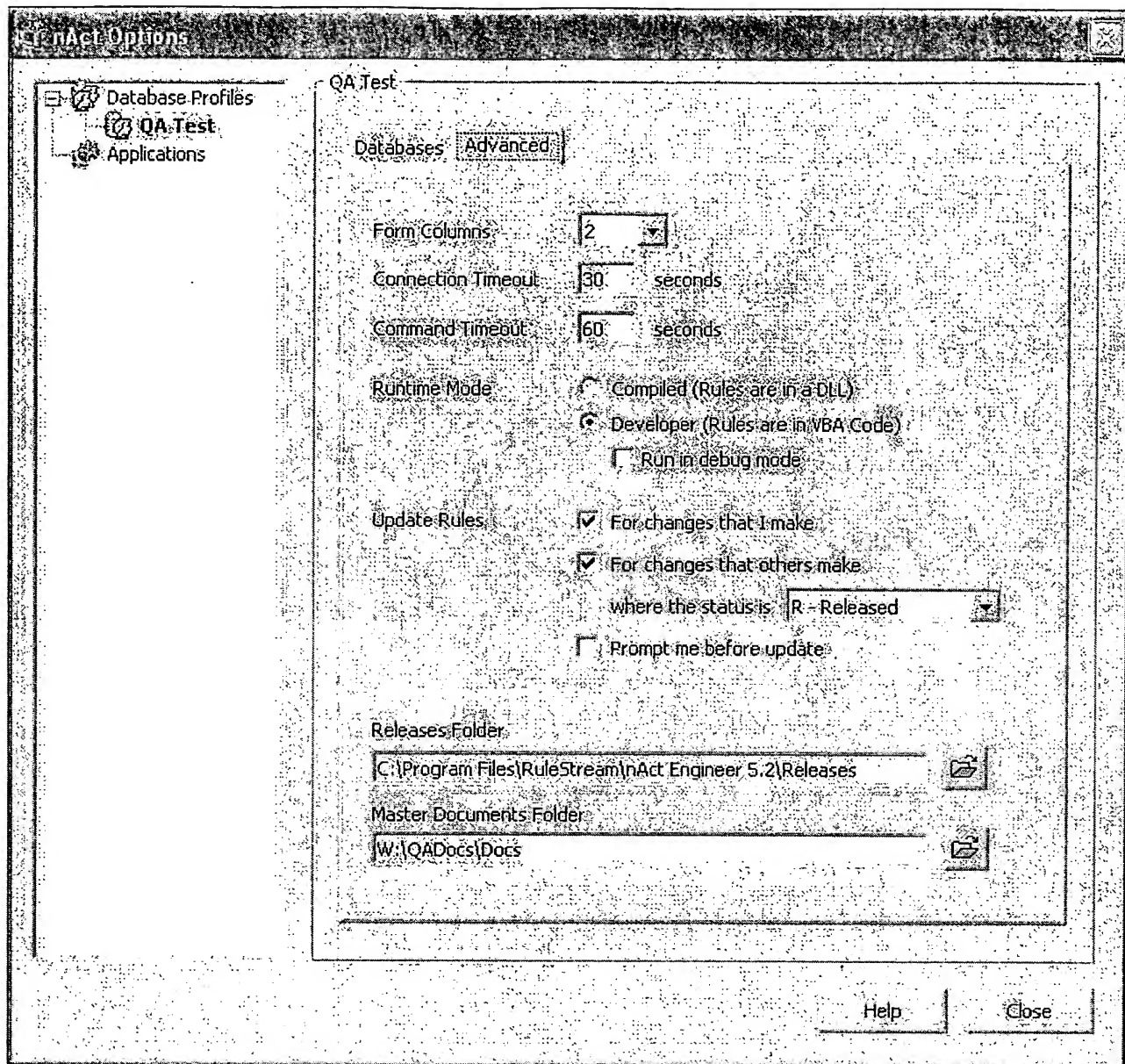
on the server. For Microsoft Access databases, this is the full path and filename of the .MDB file.

Note: It is mandatory to enter information for all three of the above databases.

4. Buttons

- Delete This Profile - Click on this button to remove the selected profile from the Options.
- Copy to New Profile - Click on the button to copy all to the information from the selected profile to a new profile. (Database Profile window will be displayed.)
- Help - Click on this button to display Help information.
- Close - Click on the button to close the nAct Options window.

nAct Options - Advanced Options



1. Form Columns - Select the number of columns of controls to display in the dynamically generated designer form.
2. Connection Timeout - The amount of time, in seconds, that nAct will wait for a database connection to be established. This setting is used for the Project, Rules and Component databases. The value must be between 1 and 999 seconds (the default is 30 seconds).
3. Command Timeout - The amount of time, in seconds, that nAct will wait for a command to execute against the database. This setting is used for the Project, Rules and Component databases. The value must be between 1 and 999 seconds (the default is 60 seconds).
4. Run-Time Mode -

- *Use Rules in Compiled Mode (DLL)* - When this box is checked, nAct will look for a compiled server (.DLL file). If unchecked, nAct will use Microsoft Visual Basic for Applications to run the server in source code. Note: nAct requires a restart for this option to take effect.
- *Use Rules in Developer Mode (VBA)* - When this option is selected, nAct will use Microsoft Visual Basic for Applications to run the rules server in source code. Note: nAct requires a restart for this option to take effect.
 - *Run in debug mode* - When this box is checked, nAct will run in debug mode, which forces all properties, connections and subparts to be user accessible and user changeable. Note: This option is available in Developer Mode only.

5. Update Rules - Generates the Class files.

- *For changes that I make* - If selected, this will automatically update rules or pre-select any part-family where I (the currently logged-on user" have made changes.
- *For changes that others make* - If selected, this will automatically update rules or pre-select any part-family that has been changed by another user. This checkbox works in conjunction with the "where the status is..." drop-down
 - *where the status is* - If the "For changes that others make" checkbox is selected, the user will be allowed to set the value of this drop-down. The drop-down will have a list of all available statuses plus a "* include all statuses" entry. If the drop-down is set by the user, the system will automatically update rules or pre-select any part-family that has been changed by another user and its status is equal to or greater than the status that the user entered. The default status will be the highest priority status in the connected database
- *Prompt me before update* - If selected, the Update Rules screen will be presented to the user. If unselected, this screen will not appear and the rules update will automatically select the part-families to "code generate" depending on which of the above options were set.

*Note - Regardless of the values of the above settings, missing class files will always be generated.

6. Releases Folder- Enter the path for folder where line item releases will be created. When a line item is released, a line item folder is created inside this folder and all of the support files for the line item are copied here. Click the folder icon to browse for a folder on your local machine or on the network.
7. Master Documents Folder - Enter the path for the folder where the master copy of the 2D and 3D templates are stored. When nAct refreshes your local copy of the templates, this is the location they are copied from. This setting will be a company specified

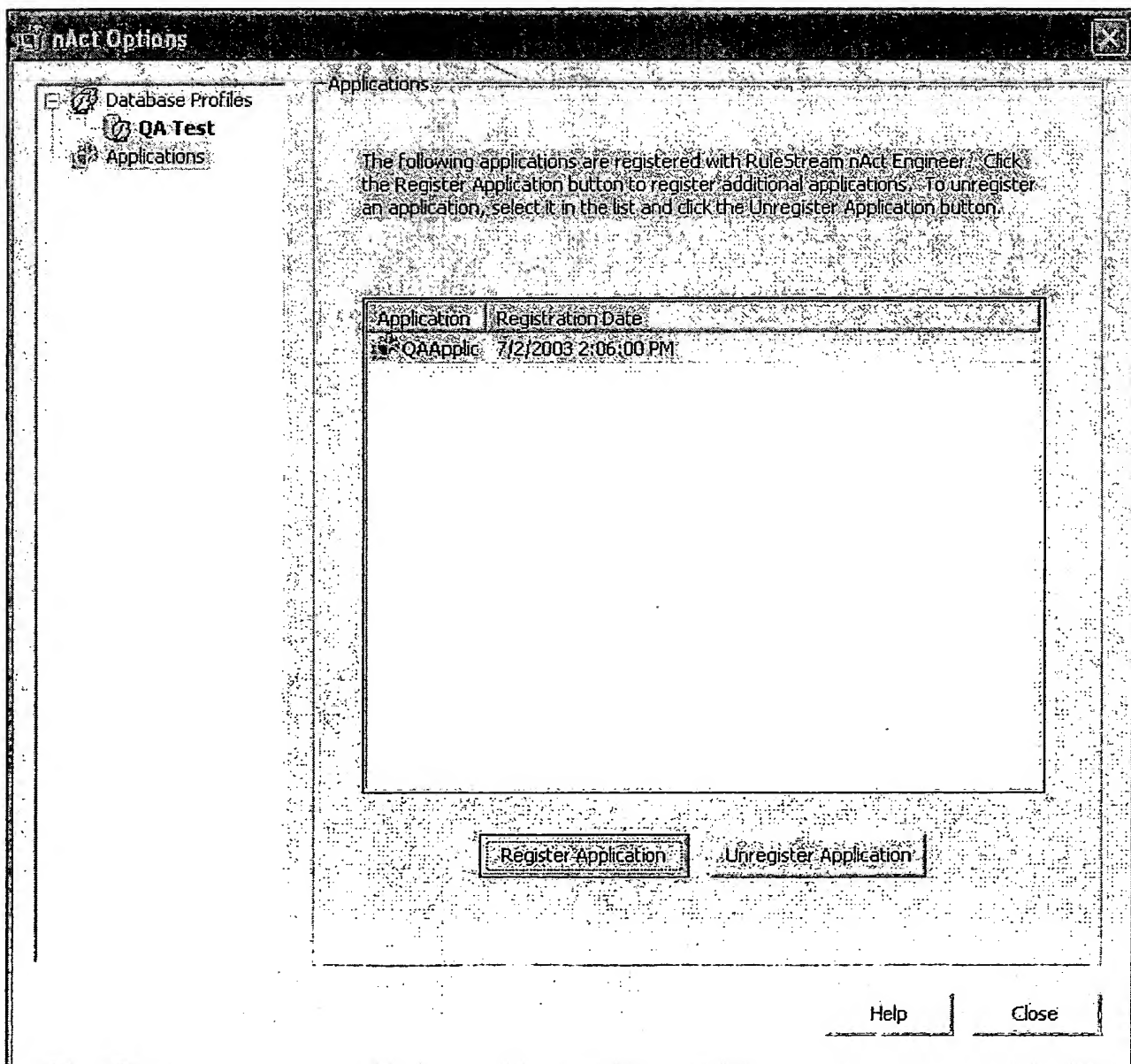
network path, such as "F:\RuleStream\Docs" or "\\server \docs".

8. Buttons -

- o Help - Click on this button to display Help information.
- o Close - Click on the button to close the nAct Options window.

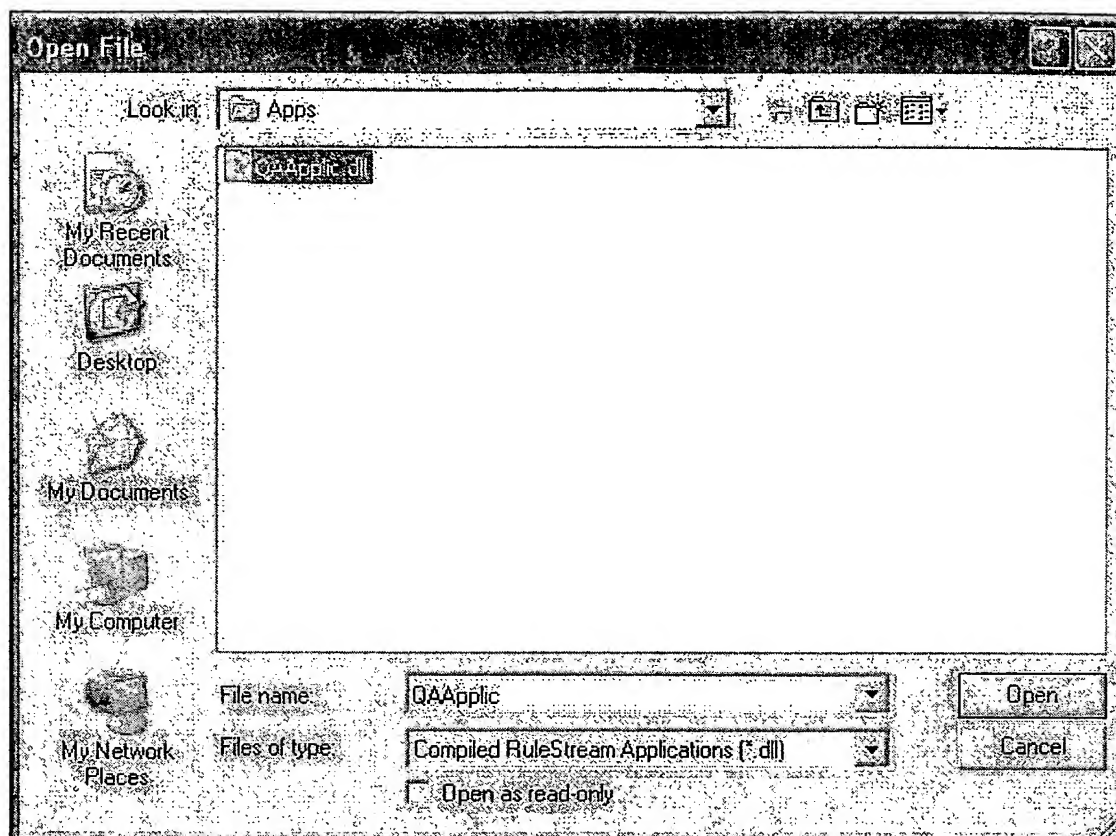
nAct Options Applications

This must be selected when 'Compiled "Dll"' is selected for the run-time mode in nAct Engineer. A "Dll" must be registered in order to edit models in nAct Sales and for Disconnected Users. Click the following to view instructions for creating a compiled "dll".

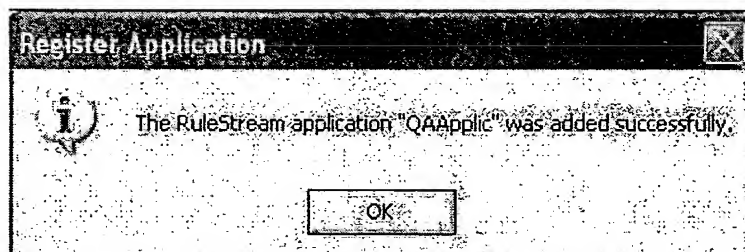


Buttons -

1. Register Application - Click on this button to locate and register the compiled dll.

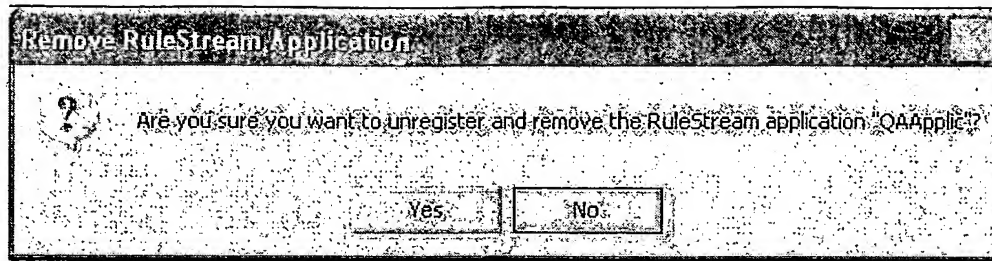


- Locate and select the applicable 'dll' and click on the open button.

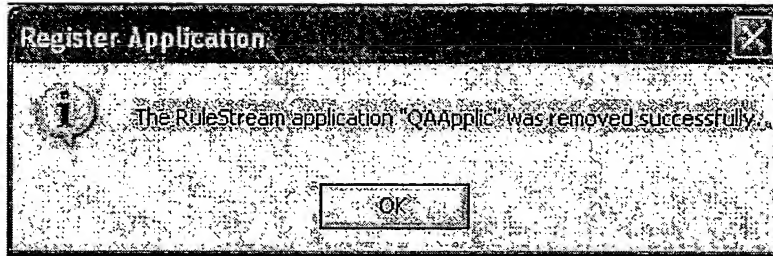


- Click on the OK button to complete.

2. Unregister Application - Click on this button to un-register the compiled dll.



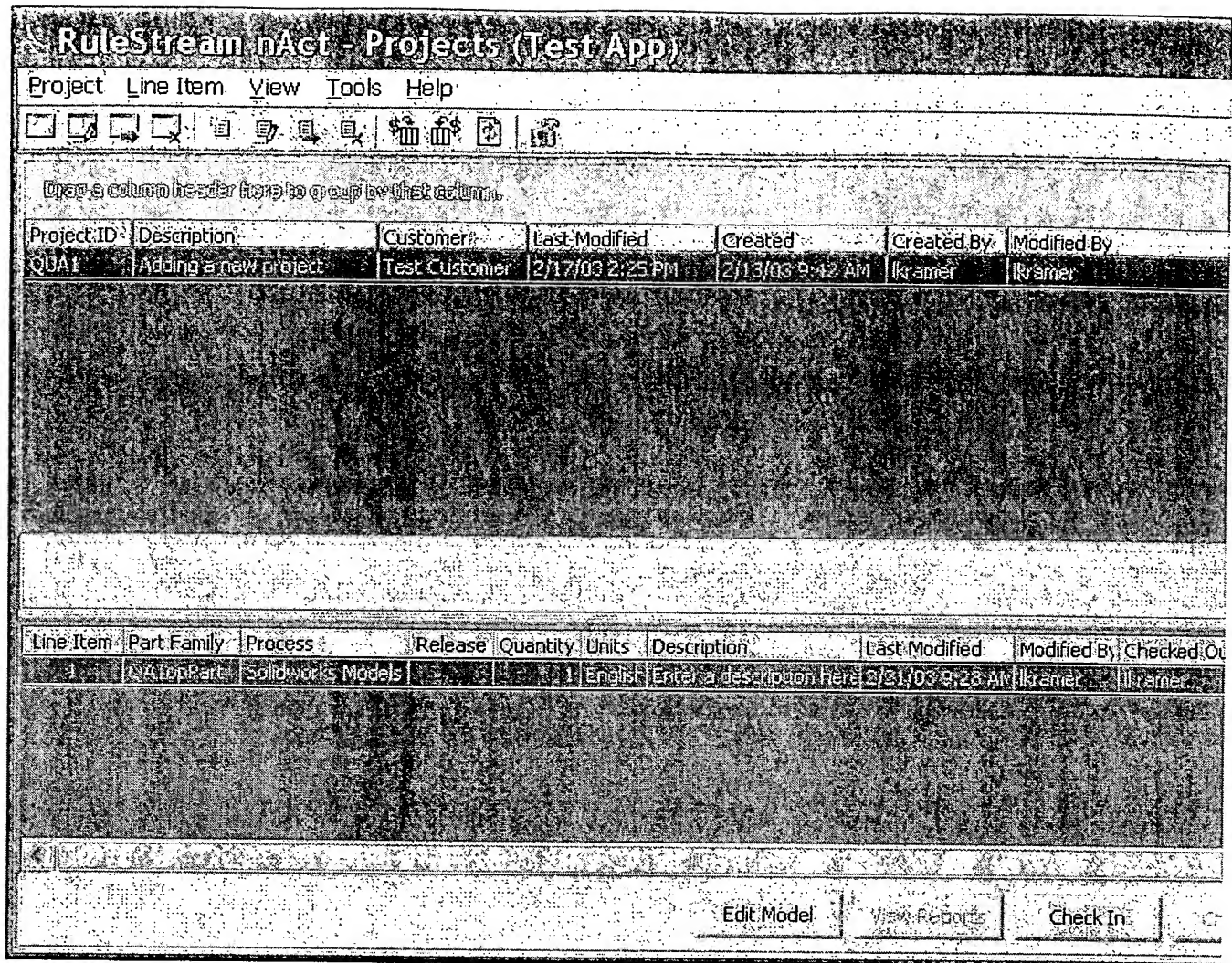
- Click on the 'Yes' button and the following message will be displayed when the application has been unregistered.



- Click on the OK button to complete.

3. Help - Click on this button to view the help information.
4. Close - Click on this button to close the nAct Options window.

nAct - Project Window Overview



1. Menu - Project Line Item Tools Help

2. Project - The following options are all available from this option on the Projects window if there are projects listed. If no projects are listed then the New, Refresh and Exit items are the only options enabled.

- o New - Adds a new project
- o Copy - Copies the highlighted project and all line items listed on that project
- o Delete - Deletes the highlighted project
- o Edit - Opens the window for the user to edit the project information such as the customer and description.
- o Refresh - Refreshes the window
- o Exit - Exits the nAct application

3. Line Item - The following options are all available from this option on the Projects window if there are line items already listed. If no line items are listed then the New and Refresh items are the only options enabled.

- o New - Adds a new line item
- o Copy - Copies the highlighted line item
- o Delete - Deletes the highlighted line item
- o Edit - Opens the window for the user to edit the line item information

- Refresh - Refreshes the window
- Check In - Checks the line item back in so that other users can access it if they are working in the same databases
- Check Out In - Checks the line item out so that no other users can access it if they are working in the same databases
- Releases - Displays all releases available for the highlighted line item
- Edit Model - Opens the highlighted line item to the designer window for editing
- View Reports - Opens the Reports Viewer for the highlighted line item to view and print reports for released line items.













4. Tools -

- Update Rules - Takes the rules (entered in nAct Expert) and converts them into Visual Basic modules (CLS files) that nAct executes at run time. This function also has the feature to create a VBP file that is used to create a compiled server(.DLL file). There is a box in the nAct Options/Advance Options folder that determines what mode nAct is run in. When this box is checked, nAct will look for a compiled server (.DLL file). If unchecked, nAct will use Microsoft Visual Basic for Applications to run the server in source code.

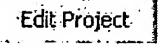
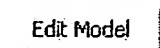
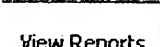
5. Help -

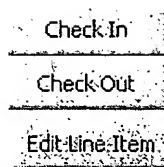
- Technical Support - The information contained in this window is entered by an Administrator of RuleStream under Administer System Settings / Site Settings / Technical Support Information.
- About nAct - Displays the Version and Build number of nAct and the associated '.DLL's' (by clicking on the "More" button) that are currently installed.

6. Icons -

	New Project	- Click on this icon to add a new project.
	Edit Project	- Click on this icon to Edit the information on the selected project
	Copy Project	- Click on this icon to copy the project and line items on the selected
	Delete Project	- Click on this icon to delete the highlighted project and line item
	New Line Item	- Click on this icon to add a new line item.
	Edit Line Item	- Click on this icon to Edit the information on the selected line item
	Copy Line Item	- Click on this icon to copy the information on the highlighted line item
	Delete Line Item	- Click on this icon to delete the highlighted line item.
	Show Cost Columns	- Click on this icon to display the Cost Column information on the
	Show Price Columns	- Click on this icon to display the Price Column information on the
	Refresh	- Click on this icon to refresh the Project window.
	Options	- Click on this icon to open the nAct Options.

7. Buttons -

	Edit Project	- Click on this button to edit the project information for the
	Edit Model	- Click on this button to edit model information for the highlighted
	View Reports	- Click on this button to view the reports for the highlighted



- Check In - Click on this button to "Check In" the highlighted line item
- Check Out - Click on this button to "Check Out" the highlighted line item
- Edit Line Item - Click on this button to edit the line item information for the

Update Rules

Update Rules - If this is the first line item being edited or if information in nAct Expert has changed nAct will prompt the user to Update the rules (only when in developer mode in nAct Engineer - not running with a compiled server (.DLL)).

The following window will only be displayed if the user has selected the 'Prompt me before update' option in nAct Options under the 'Advanced' tab.

Update Rules

Application: View: Select:

Part Family	Status	User ID	Last Modified	
<input type="checkbox"/> GuideRod	Tested	lkramer	6/27/2003 1:48:06 PM	7/2
<input checked="" type="checkbox"/> HexBolt	In Development	lkramer	6/27/2003 1:45:26 PM	
<input type="checkbox"/> Piston	In Development	lkramer	6/27/2003 1:45:35 PM	7/2
<input type="checkbox"/> PistonPlate	In Development	lkramer	6/27/2003 1:45:50 PM	7/2
<input checked="" type="checkbox"/> PistonRod	In Development	lkramer	7/2/2003 3:13:58 PM	7/2
<input type="checkbox"/> TopPart	In Development	lkramer	6/27/2003 1:46:22 PM	7/2

☐ Include Subparts ☐ Create Visual Basic Project File ☒ Show Gridlines

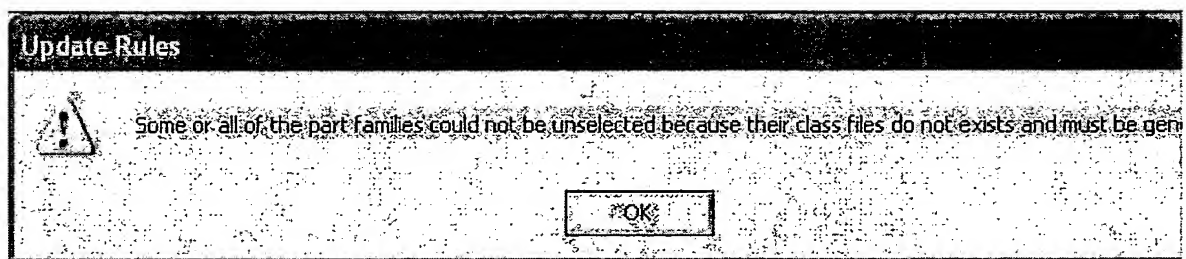
1. Color Codes -

- Red - Red Part Families denote a missing class file. This class file must be generated. The

user is not allowed to un-select a part family that is coded red.

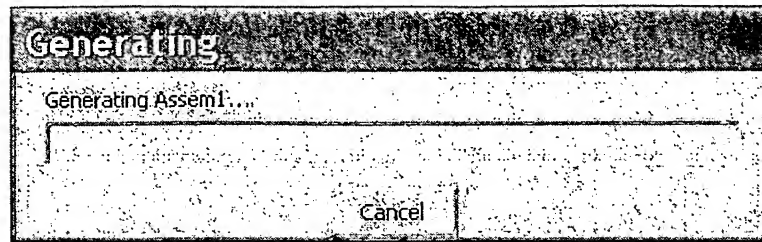
- Blue - This signifies that the class file is out-of-date and needs to be generated. The user can de-select the entry by clicking on the checkbox.
 - Black - Black is the normal color. The class file is up-to-date and no action is necessary. The user may update the code by clicking on the checkbox.
2. Application - The Application Drop-Down is disabled when the screen is fired with the “Edit Model” button. The user is not allowed to change to a different application and is not allowed to change the Part-Family View. If your selected Tools / Update Rules from the menu then select the Application to be code generated from the drop down list
 3. List/Tree - The Application Drop-Down is disabled when the screen is fired with the “Edit Model” button. The user is not allowed to change to a different application and is not allowed to change the Part-Family View. Select the type view from this drop down list.
 4. Buttons - The buttons will appear differently depending on where this screen is requested from.
 - When the user Clicks on the “Tools-Update Rules” menu item, the buttons will read “OK” and “Cancel”
 - When the user clicks on “Edit Model”, the buttons will read “Continue” and “Cancel”
 - Select All - Click on this button to select all of the part families.
 - Un select All - Click on this button to un select all of the part families.

Note: The “Un-select All” button at the top of the page will not allow the user to un-select part-families that have missing class files. The following error will appear:



- OK / Continue- Click on this button to start the Code Generation process.

Code Generation Progress Bar

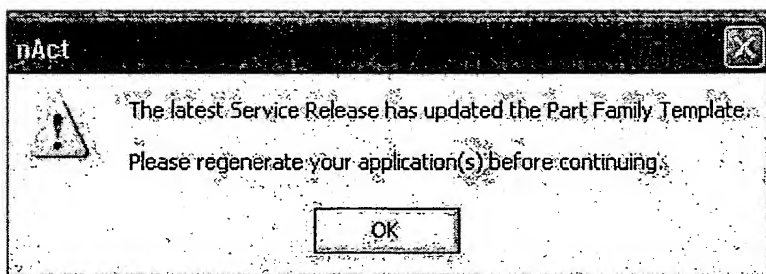


- Click on the "Cancel" button to stop the Code Generation process.
- Cancel - Click on this button to close the update rules window.
- Help - Click on this button to display Help information.

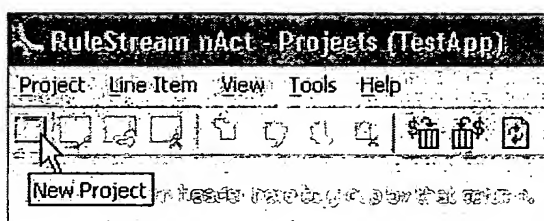
5. Check Boxes -

- Include Subparts - Check this box to include subparts.
- Create Visual Basic Project File - Check this box to create the VB Project file, which will be used to compile the ".DLL".
- Show Gridlines - Check this box to display grid lines in this window.

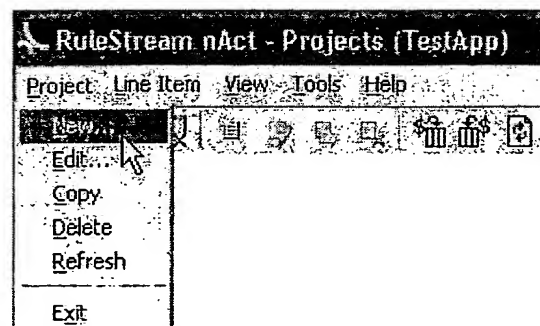
A new Part Family.xsl will effect the generation of rules- If this prompt is displayed, the user must code generate all applications listed prior to editing any models.



Adding a new Project and Customer

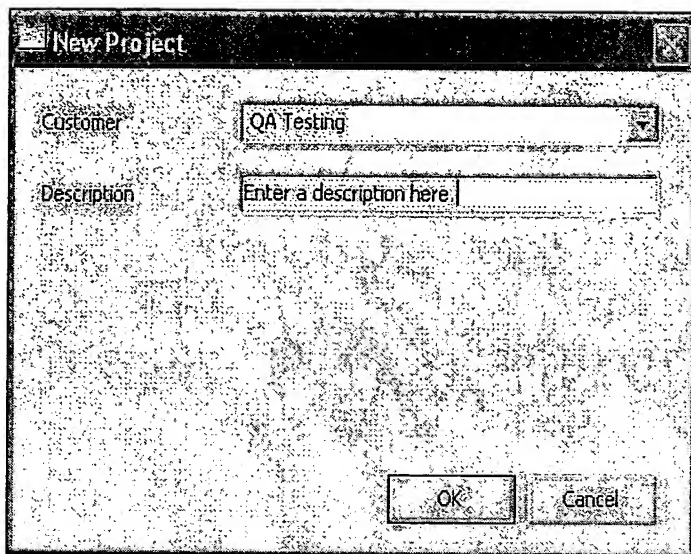


Or



Adding a new Project - Click on the "New Project" icon or select Project/New from the menu bar on the Project window to select a Customer and add the Project.

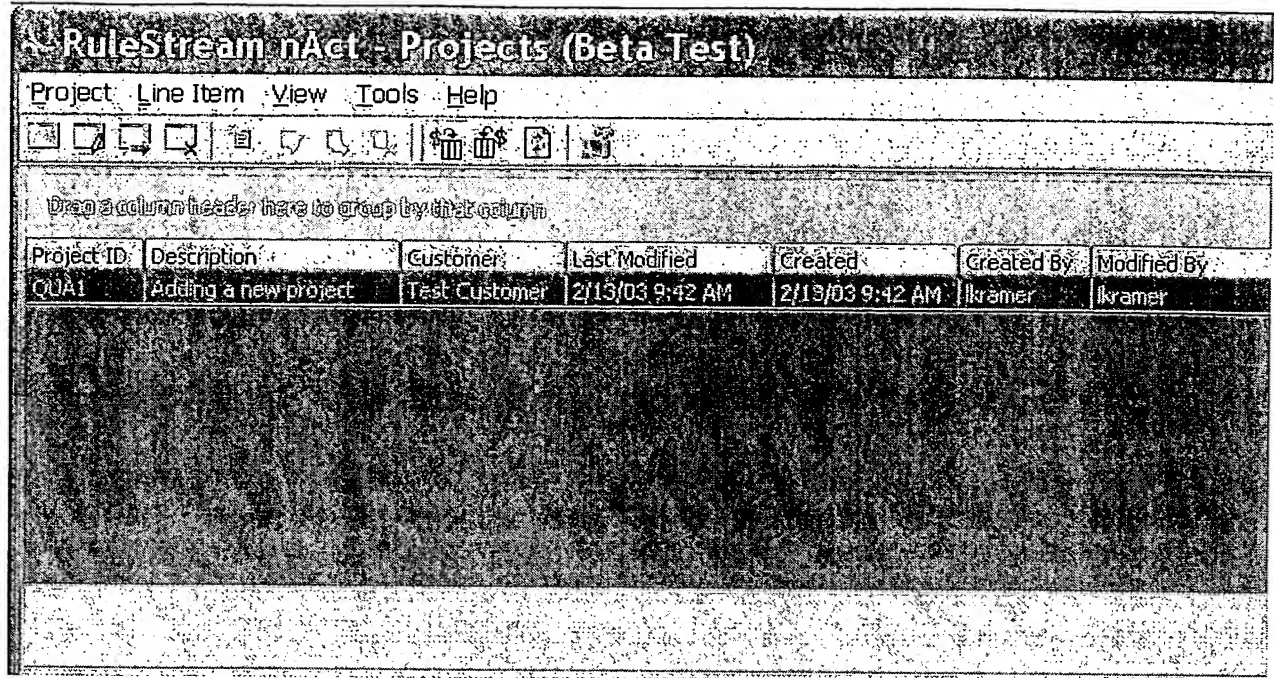
New Project Window



The screenshot shows a 'New Project' dialog box. It has a title bar with the text 'New Project'. Inside the dialog, there are two main input areas. The first is labeled 'Customer' and contains a dropdown menu with 'QA Testing' selected. The second is labeled 'Description' and contains a text box with the placeholder text 'Enter a description here.'. At the bottom of the dialog, there are two buttons: 'OK' and 'Cancel'.

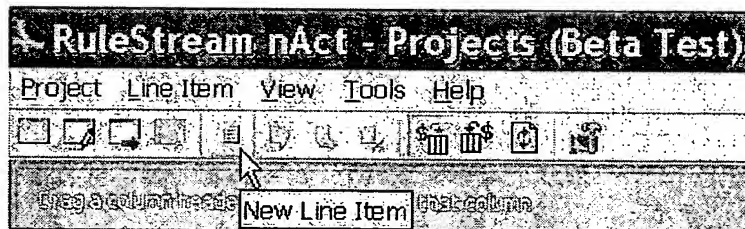
1. Customer - Enter a new Customer or select an existing one from the drop down list. Verify the selected Customer name appears in the Customer field .
2. Enter a description in each of the user defined fields for the project (these fields are defined during installation).
3. Click on the OK button to continue (the project will be displayed in the Project window) or the Cancel button to exit and return to the project window without adding the Project.

Project Window

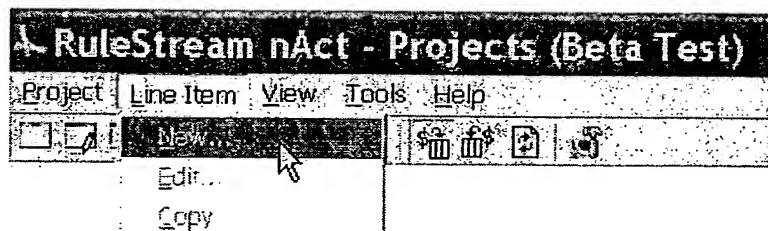


1. Verify the Project information appears correctly.

Adding a new Line Item



Or

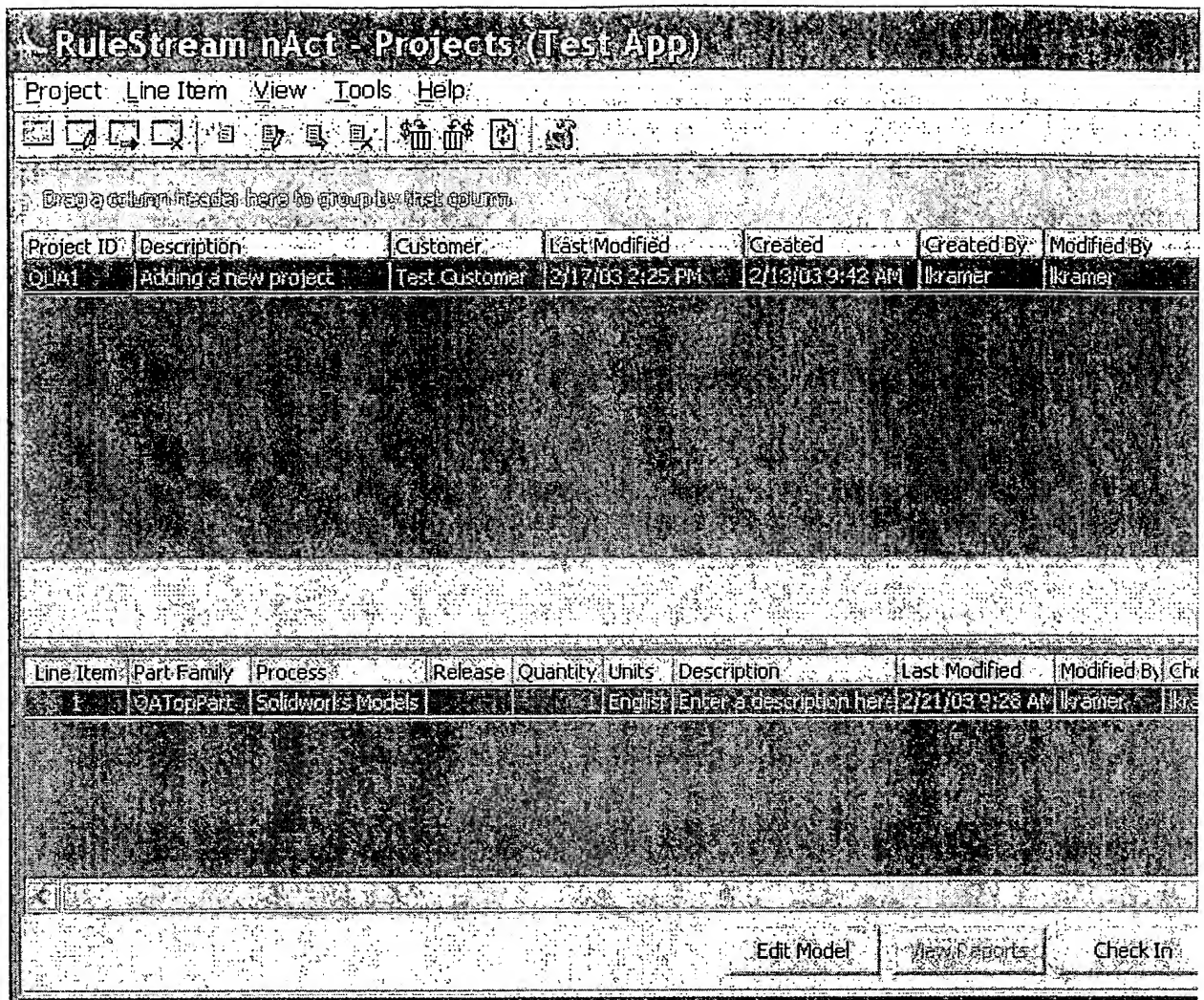


1. Click on the New Line Item icon or select Line Item/New from the menu bar. (Displays New Line Item window)

New Line Item Window

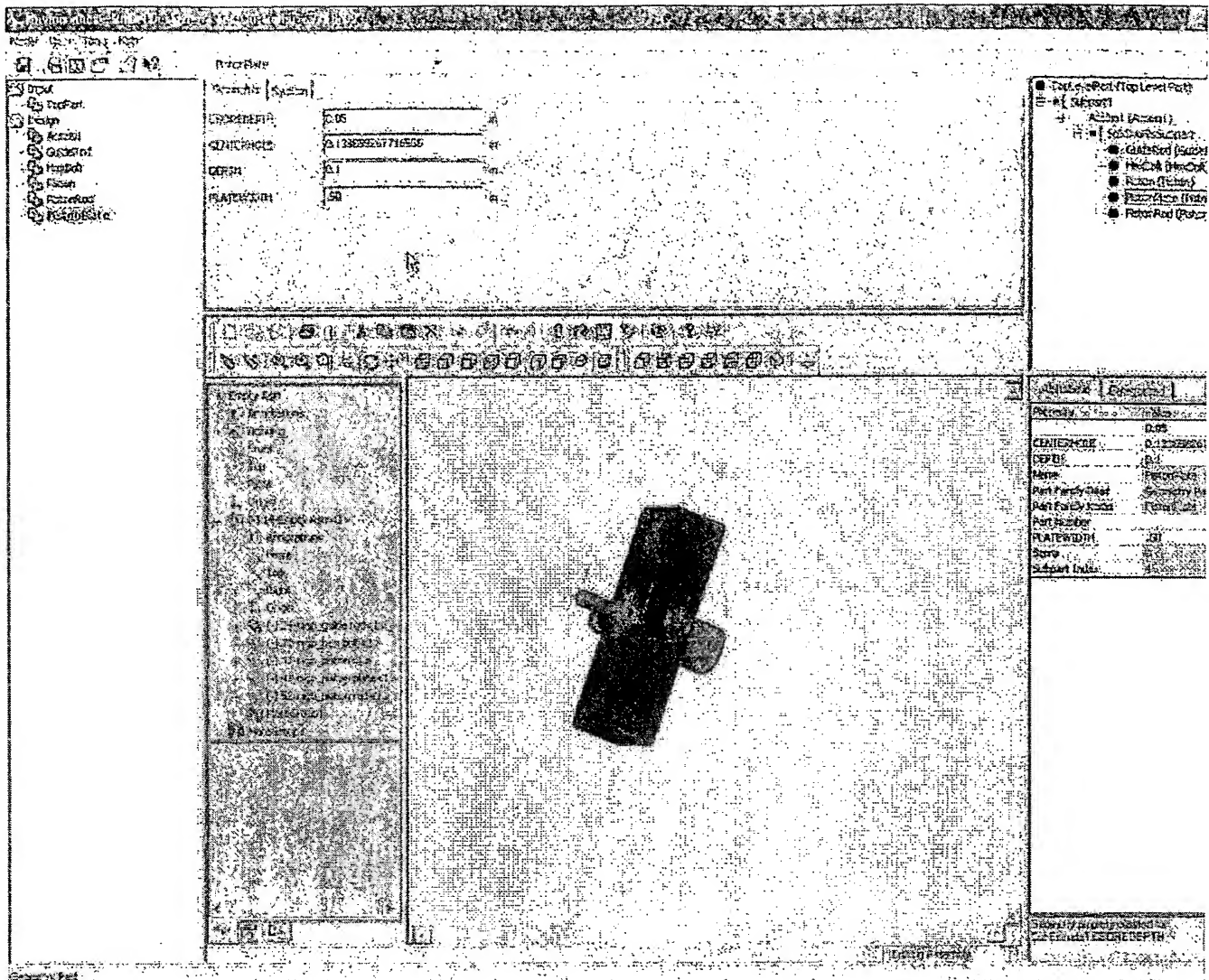
2. Part Family - Select the applicable Part Family (as specified in nAct Expert) from the drop down list box. (Required entry field.)
3. Process - Select the applicable Process as specified in nAct Expert) from the drop down list box. (Required entry field.)
4. Quantity - Enter the Quantity, if applicable.
5. Price - Enter the Price, if applicable.
6. Cost - Enter the Cost, if applicable.
7. Units - Protected field. Populated by what is selected in the Site Settings under Administer System Settings.
8. Description - Enter a description of the line item.
9. Last Modified Date - Protected field. Populated by the login information.
10. Modified By - Protected field. Populated by the login information.
11. Checked Out By - Protected field. Populated by the login information.
12. Comments - Enter any additional comments regarding the line item in this field.
13. Buttons -
 - o OK - Click on this button to save the line item information and return to the Project window.
 - o Cancel - Click on this button to cancel out of adding the new the line item and return to the Project Window.

nAct Project Window



14. Project window - Click on the Edit Model button to navigate to the Designer Window. If this is the first line item being edited or if information in nAct Expert has changed nAct will prompt the user to Code Generate (only when in developer mode - not running with a compiled server (.DLL)). Click here to view the [Code Generate](#) process.

nAct - Designer Window Overview



Menu Bar


1. Model - The following options are available from the this option on the menu bar.
 - o Save - Saves the model information
 - o Release - Releases the Model so that the Reports can be viewed and printed.
 - o Transmit - Transmits the model data.
 - o Import - This is the Batch Import Utility. Imports data from the batch import tables.
 - o Close - Closes out of model.
2. View -
 - o Process - When this option is selected the list of Processed will be displayed in the designer window
 - o Properties - When this option is selected the Property List will be displayed in the designer window
 - o Model Tree - When this option is selected the Model Tree will be displayed in the designer window
 - o Formula - When this option is selected the Microsoft Visual Basic window will open so the developer can work on formulas from within nAct
 - o Status Bar - When this option is selected the Status Bar will be displayed at the bottom of

the designer window.







3. Tools -

- Merge Part Numbers - Selecting this option brings up the Part Numbers window so the user can merge part numbers.
- Refresh DB Values - Selecting this option brings up the Refresh Database Values window. The user has the ability to select the part families to be refreshed.
- Calculated Values - Selecting this option allows the user to do any of the following:
 - Recalculate All Parts
 - Recalculate Selected Part
 - Revert All Parts
 - Revert Selected Part
- Options - Selecting this option opens the nAct Options window.

4. Help -

- What's This - When this option is selected the cursor turns into . Click on any of the item in the Model Tree and Property List of view the information regarding that item.
- nExplore - Select this item to view the rules information and generate various management reports.
- Technical Support - Select this to find out how to contact technical support.
- About (name of the application) - Select this option to view the application information. (The information that is displayed is the same information that was entered under Administer System Settings / Application.)
- About nAct - Select this option to view the Version/Build/Release information for nAct.

Icons

	Save	- Saves the model information.
	Show/Hide Process Pane	- Click on this icon to show/ hide the process steps.
	Show/Hide Model Tree Pane	- Click on this icon to show/ hide the Model Tree.
	Show/Hide Properties Pane	- Click on this icon to show/ hide the Properties List.
	Options	- Click on this icon to open nAct Options.
	What's This	- Click on this icon to obtain more information. Then Click on any of the items in the Model Tree or Property List to view more detailed information regarding the selected item.

● **Dynamic UI** - The dynamic UI part of the window is created based on how the process step (created in nAct Expert) was set up. Different UI's can be viewed by selecting different process steps.

● **Geometry** - The Geometry part of the UI is selected in the process step. If the 3D Viewer is selected from the Frame drop down box then Geometry will be displayed on the UI.

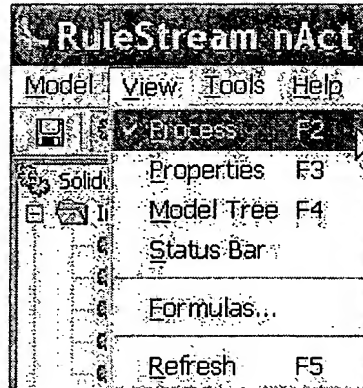
nAct - Designer Window - Process Pane

Tool Bar - Click on the Show/Hide Process Pane Icon to show/ hide the process steps.

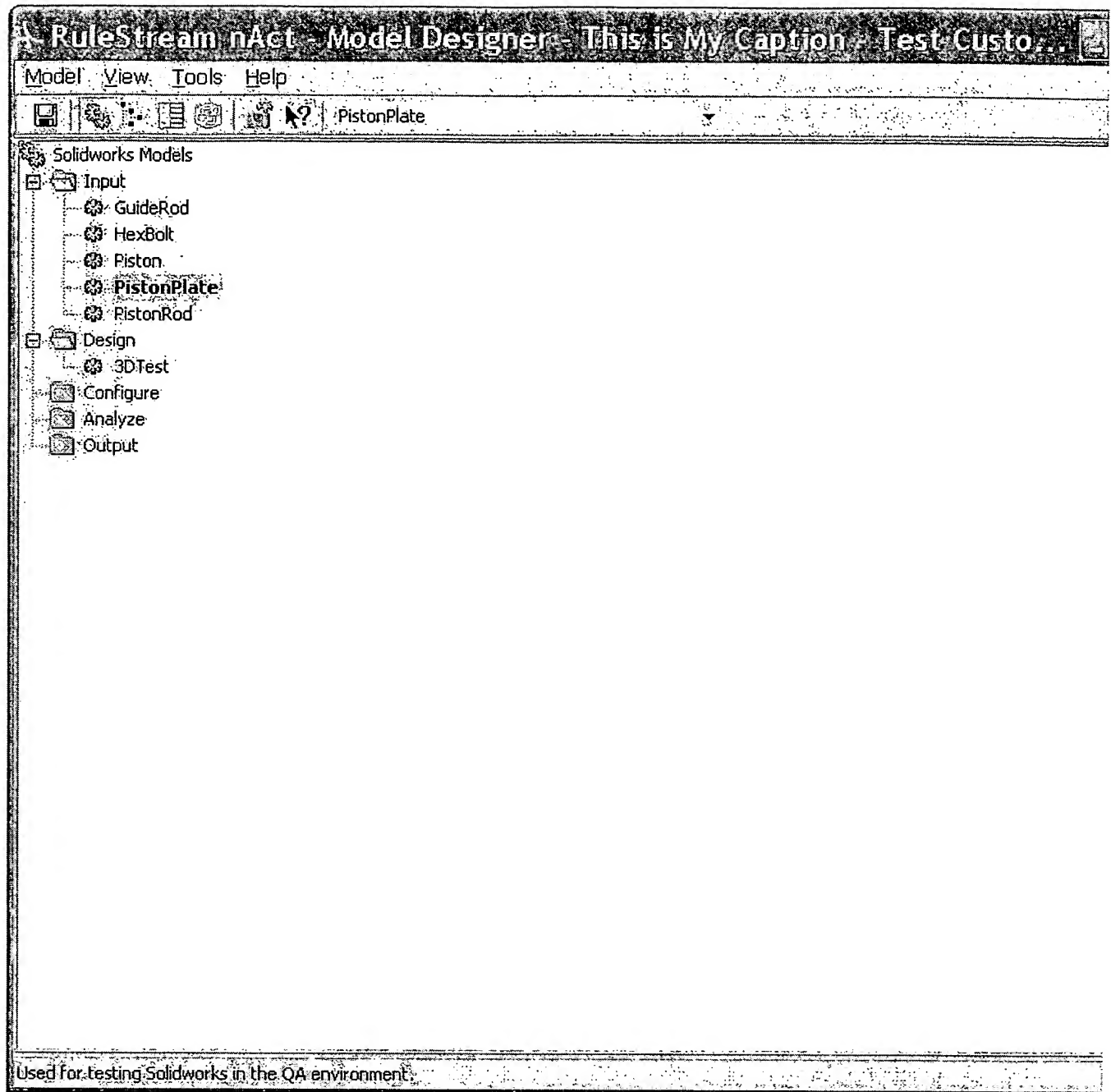


OR

Menu Bar - Select View / Process from the Menu bar to display the Process Steps on the Designer Window.

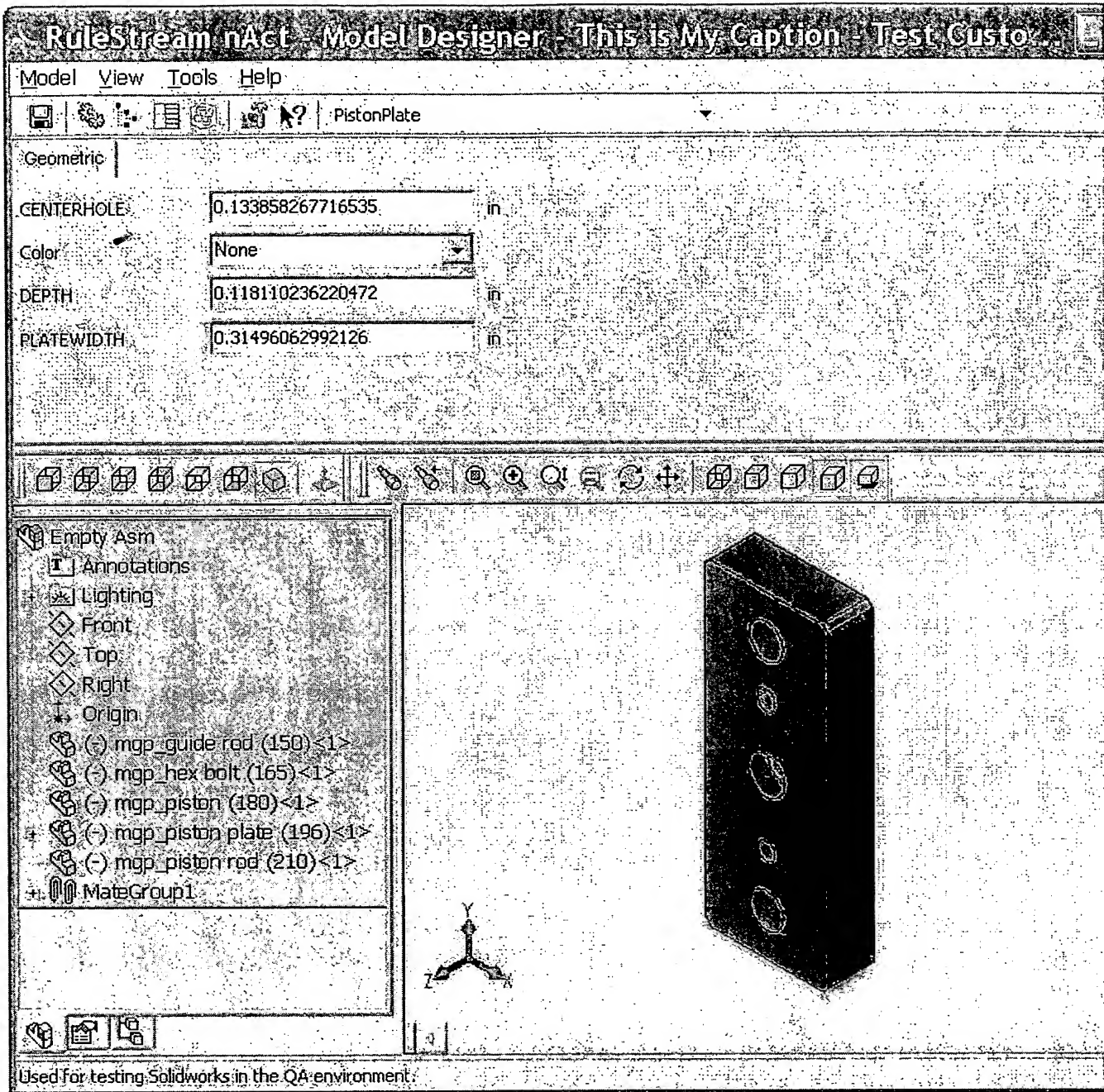


The Process Steps that were set up when editing the rules will be displayed in the Designer Window in the Process Pane. The following is an example of how the Process Steps appear:



nAct - Designer Window - Dynamic UI Pane

This is an example of how a Dynamic UI may appear in the designer window that was set up using a part family form frame and a 3D viewer frame:



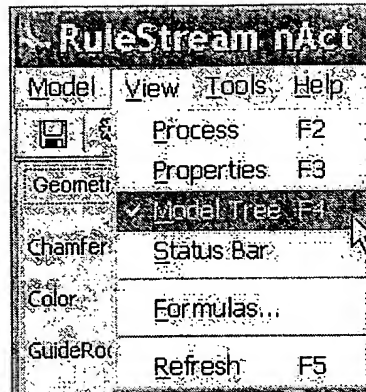
nAct - Designer Window - Model Tree Pane

Tool Bar - Click on the Show/Hide Model Tree Pane Icon to show/ hide the model tree.

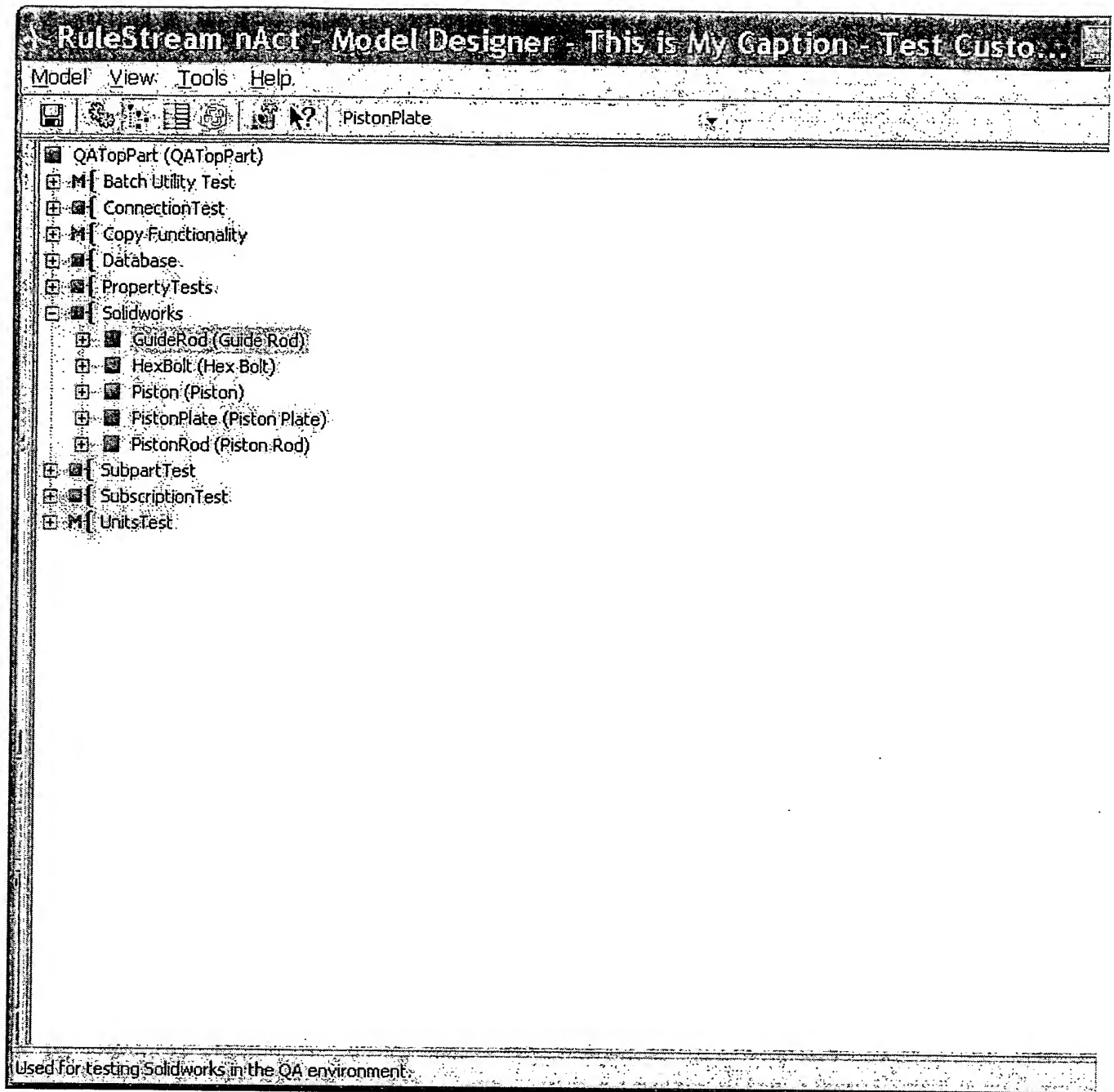


OR

Menu Bar - Select View / Model Tree from the Menu bar to display the Model Tree on the Designer Window.



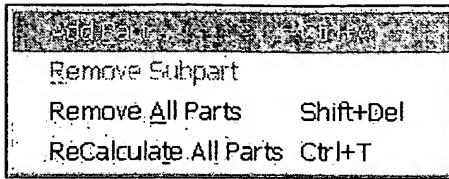
The following is an example of how a Model Tree may appear in the designer window:



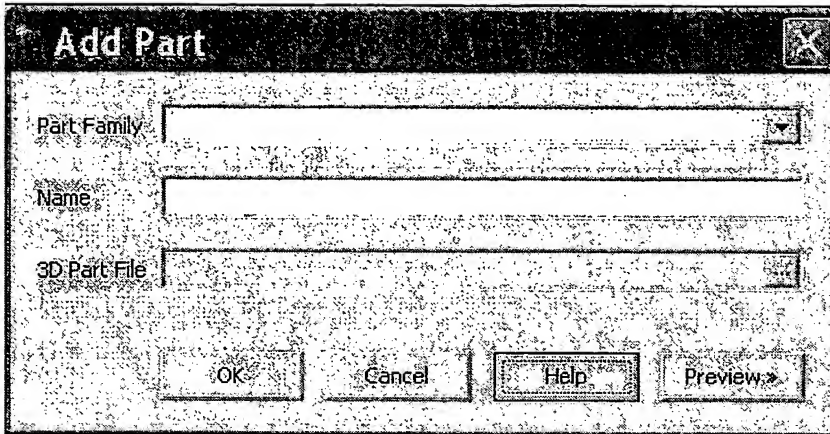
Model Tree - Add Part

New parts can only be added to manually driven subparts.

To add a part during run-time right, click on a manual subpart and select Add Part.



The "Add Part" window will be displayed.

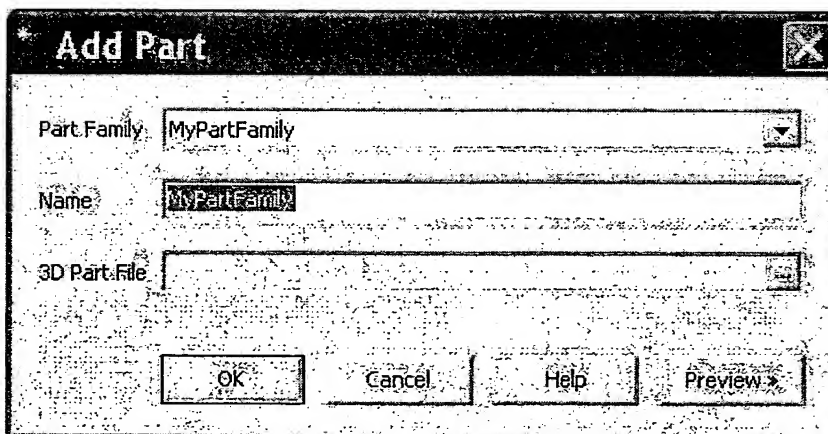


Part Family - Click on the arrow to open the drop down list.

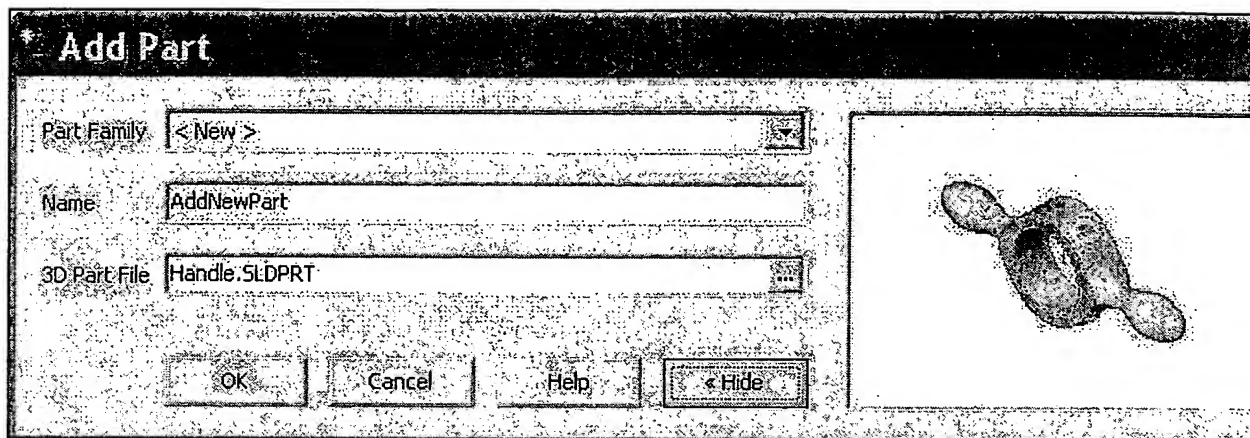
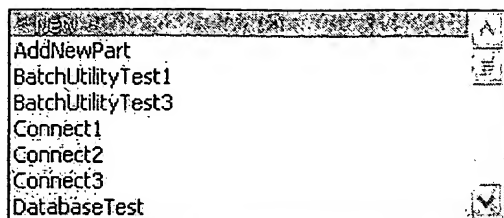
- The valid part families that already exist on the selected subpart will be displayed.



- The user can select a part from the current list of available part families, add a new part family or select an existing part family that is not currently in the valid part family list for the selected subpart.

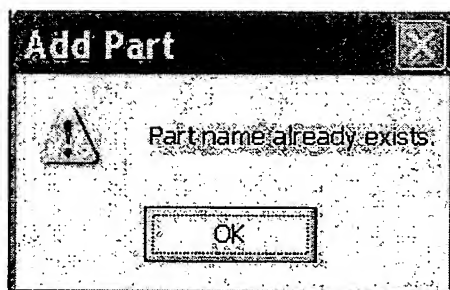


- To view all available part families on the selected application or to add a new part family, go to the bottom of the list and select "Show All Part Families".



Name -


- Enter the name of the Part, when adding a new part. (Note: System will error if name already exists in the application.)



Click on OK and enter a different name.

OR

- When selecting an existing part family from the list, this field will be automatically populated.

3D Feature - Click on the  to locate the geometry file to be added.

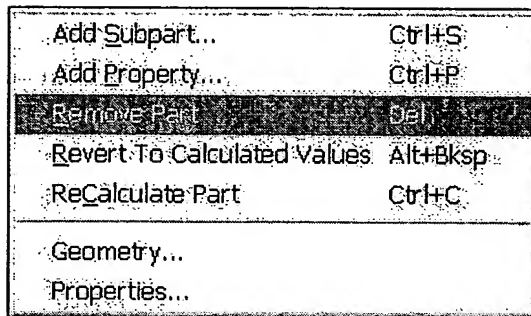
Note: This feature is only enabled when adding a New part.

Buttons -

- OK - Click on this button to Save the part. The new part will be displayed in the model tree.
- Cancel - Click on this button to close the window without selecting or saving a the part.
- Help - Click on this button to display Help information.

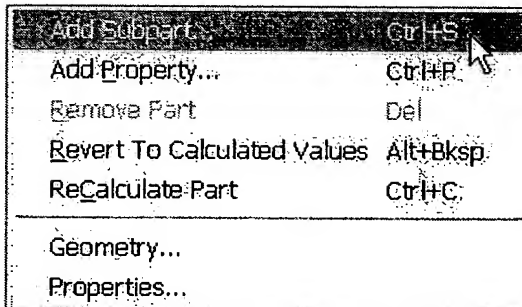
- Preview/Hide - Click on the preview button to view the part. (Only parts with geometry files selected get displayed in the preview window.) Click on the Hide button to remove the preview window.

***Remove a part** that has been added during run-time, right click on the applicable part and select Remove Part.

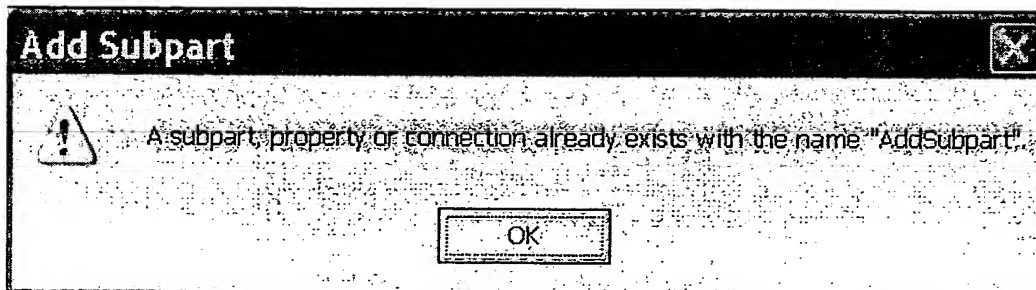


Model Tree - Add Subpart

New Subparts can be added to any part family in the model tree, during run-time by right clicking on the applicable Part Family and selecting Add Subpart.



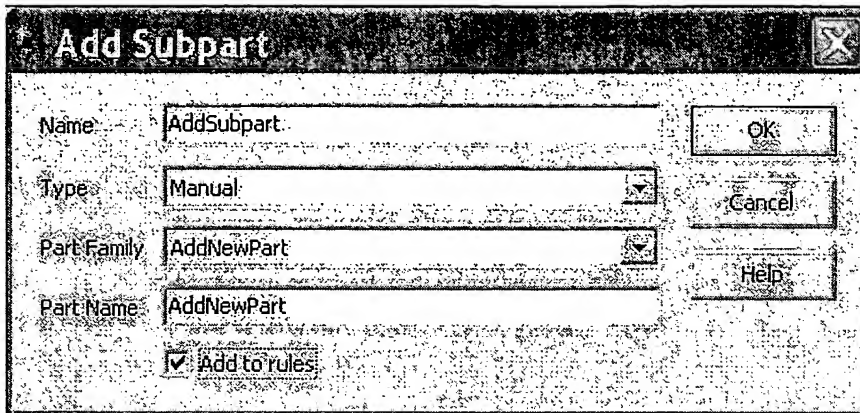
Name - Enter the name of the subpart. (Note: System will error if name already exists in the application.)



Click on OK and enter a different name.

Type - Different functionality exists for subpart entry depending on the type of subpart selected.

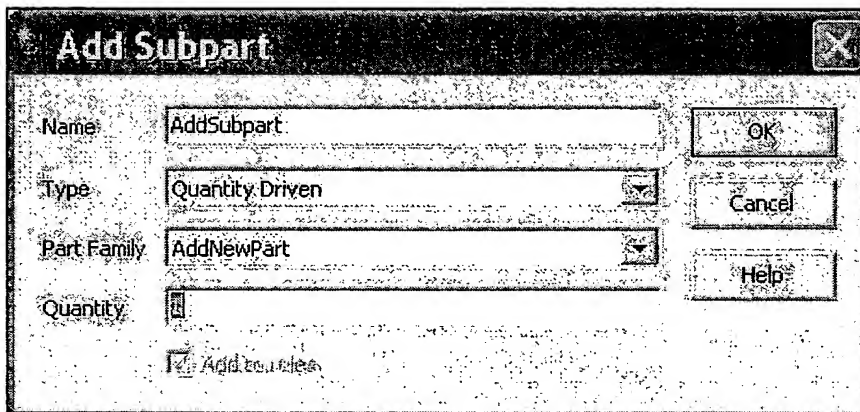
- Select Manual



The screenshot shows the 'Add Subpart' dialog box with the following fields and options:

- Name:** AddSubpart
- Type:** Manual (selected from a dropdown menu)
- Part Family:** AddNewPart (selected from a dropdown menu)
- Part Name:** AddNewPart
- ☒ Add to rules
- Buttons:** OK, Cancel, Help

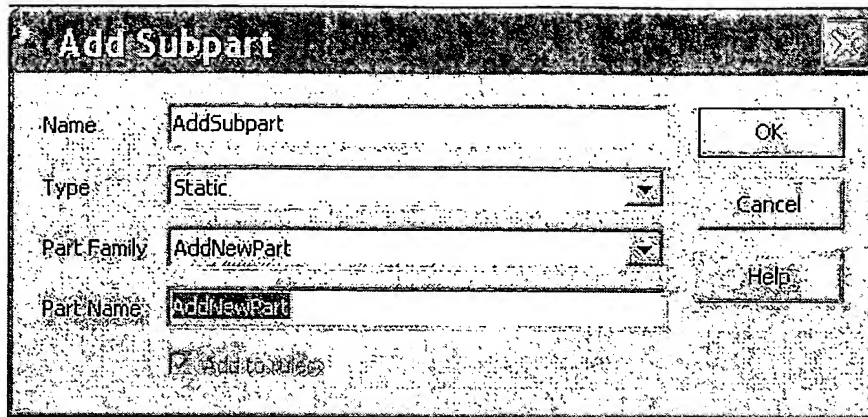
- Part Family - Select the applicable part family from the list or add a new part family.
 - Part Name - Defaults to the selected part family name but can be changed.
 - Add to Rules - User has the option of whether or not to add this type of subpart to the rules.
- Select Quantity Driven



The screenshot shows the 'Add Subpart' dialog box with the following fields and options:

- Name:** AddSubpart
- Type:** Quantity Driven (selected from a dropdown menu)
- Part Family:** AddNewPart (selected from a dropdown menu)
- Quantity:** 1
- ☒ Add to rules
- Buttons:** OK, Cancel, Help

- Part Family - Select the applicable part family from the list or add a new part family.
 - Quantity - Enter the applicable quantity.
 - Add to Rules - This field is checked and protected because all Quantity Driven subparts are automatically added to the rules.
- Select Static

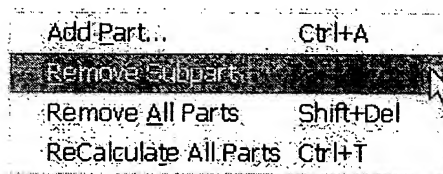


- Part Family - Select the applicable part family from the list or add a new part family.
- Part Name - Defaults to the selected part family name but can be changed.
- Add to Rules - This field is checked and protected because all Static subparts are automatically added to the rules.

Buttons -

- OK - Click on this button to Save the part. The new part will be displayed in the model tree.
- Cancel - Click on this button to close the window without selecting or saving a the part.
- Help - Click on this button to display Help information.

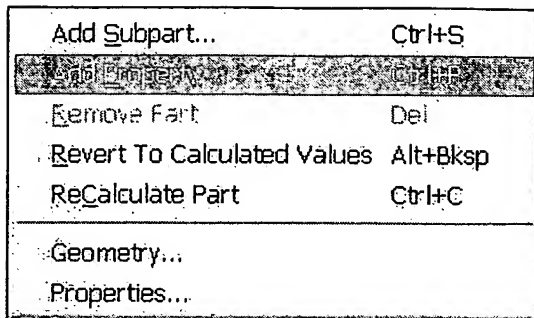
***Remove a Subpart** that has been added during run-time, right click on the applicable subpart and select Remove Subpart.



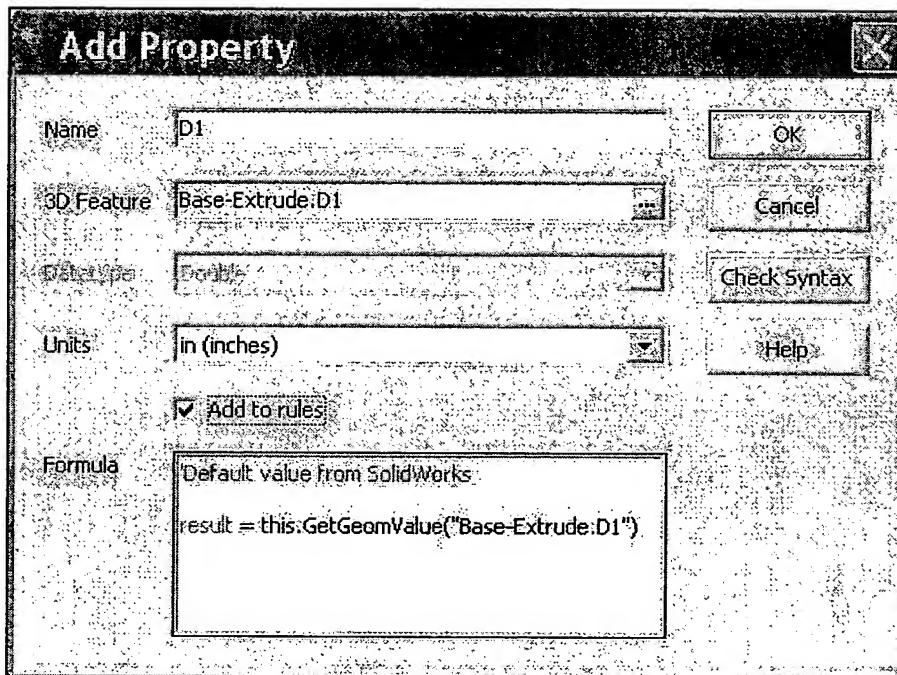
Model Tree - Add Property

New Properties can be added to any part family in the model tree, during run-time by right clicking on the applicable Part Family and selecting Add Property.

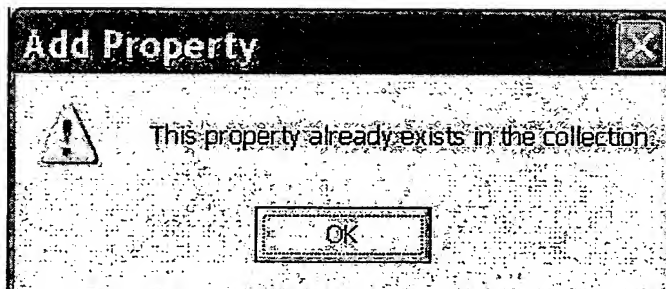
To add a new property during run-time, select the applicable part family in the model tree, right click and select Add Property.




The "Add Property" window will be displayed.



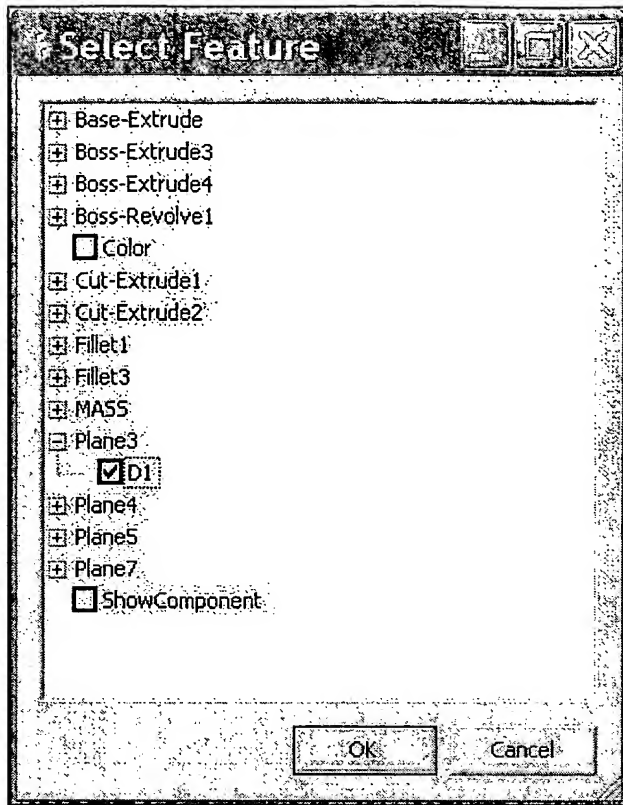
Name - Enter the name of the Property. (System will error if name already exists in the property list for the selected part family.)



Click on OK and enter a different name.

3D Feature - Click on the  to locate the geometry feature to be added.

Note: This feature is only enabled when editing a model that is associated with a Solidworks process.



- **Select Feature** - Expand the tree until applicable feature is found, then put a check mark in the box to select.
- **Buttons** -
 - **OK** - Click on this button to Save the selected feature and return to the "Add Property" window.
 - **Cancel** - Click on this button to close the window without selecting or saving a selected feature.

Datatype - Selected the applicable datatype from the dropdown list. If a 3D Feature is selected this field will be automatically populated and becomes a protected field.

Units - Select the applicable unit of measure from the list. This field is only enabled if the selected datatype is double or long.

Add to Rules - Check this box to add this property to the Rules Database. If this field is not checked then property will only be added to the current run-time model.

Formula - This field is only enabled if "Add to rules" is checked. When enabled a default formula will populate this field based on the selected datatype.

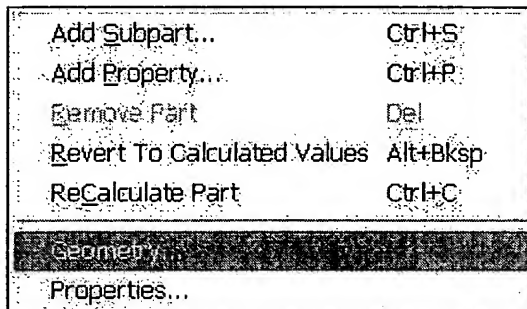
Buttons -

- **OK** - Save the property and close the Add Property Window. New Property will be displayed in the Property List.
- **Cancel** - Close without adding the property.
- **Help** - Click on this button to display Help information.
- **Check Syntax** - Click on this button to check the syntax that has been entered for the displayed

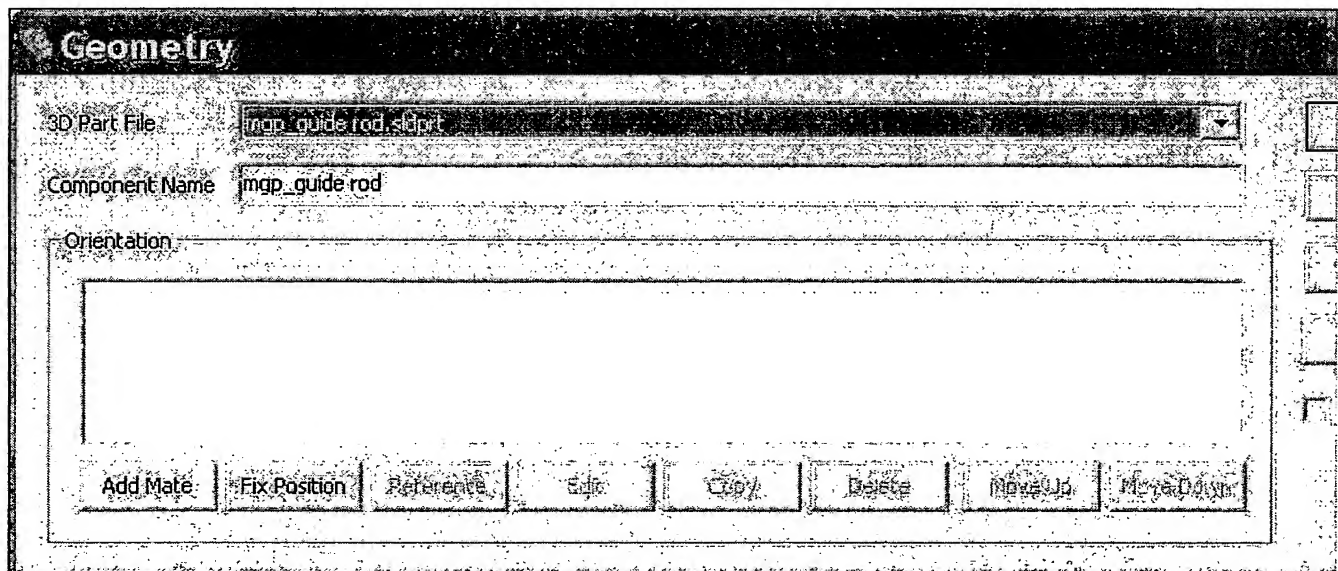
formula.

Model Tree - View /Modify Geometry

The orientation can be viewed, added, modified and deleted on any applicable part family in the model tree, during run-time by right clicking on the applicable Part Family and selecting Geometry.



The "Geometry" window will be displayed.



3D Part File - Displays a list of the part files for the selected part.

Component Name - Displays the component name for the selected 3D part file.

Orientation Buttons -

- Add Mate - Click on this button to add mating.
- Fix Position - Click on this button to add positioning.
- Reference - Click on this button to add a reference.
- Edit - Select an existing command so that it is highlighted and click this button to edit the command.

- Copy - Select an existing command so that it is highlighted and click this button to copy the command.
- Delete - Select a command so that it is highlighted and click on this button to remove the command.
- Move Up - Select a command so that it is highlighted and click on this button to move the command up in the list of commands.
- Move Down - Select a command so that it is highlighted and click on this button to move the command down in the list of commands.

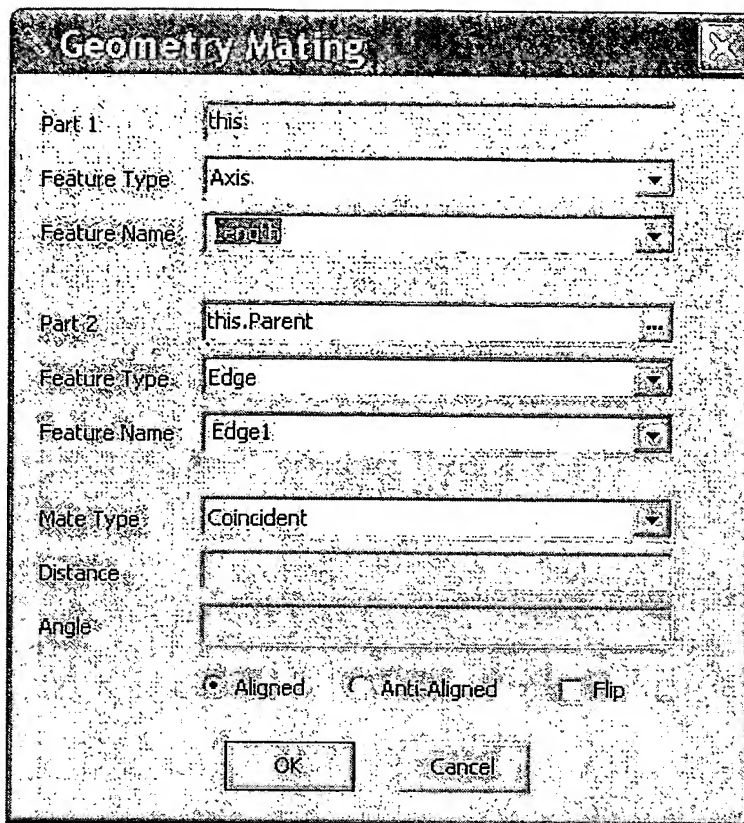
Buttons -

- OK - Click on this button to Save the orientation.
- Cancel - Click on this button to close the window without selecting or saving the orientation information.
- Help - Click on this button to display Help information.
- Preview/Hide - Click on this button to preview the orientation.

Add to Rules - Check this box to add the entered orientation to the Rules Database. If this field is not checked then the orientation will only be added to the current run-time model.

Adding Geometry Mating

- Add Mate - This will position the geometry shape of the part with respect to another geometry shape.



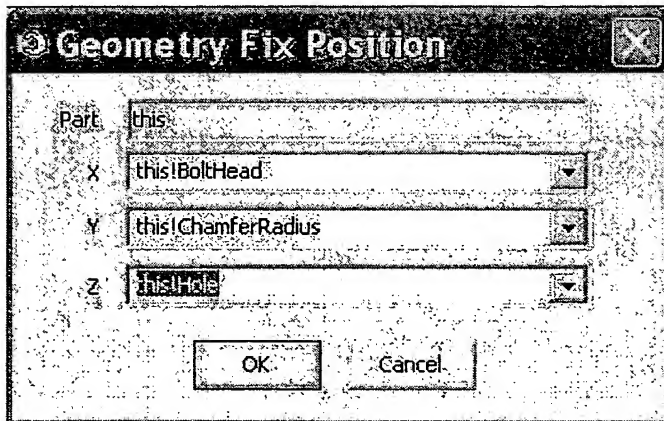
1. *Part 1* - The part that is defining the shape. (this)
2. *Feature Type* - The geometry feature type on Part 1 used for this mate. (axis, edge, face, point, plane)
3. *Feature Name* - The name given to the geometry feature on Part 1 used for this mate (width, length, etc.).
4. *Part 2* - The reference to the model part that is being mated. (this.parent!otherpart.item(1))
5. *Feature Type* - The geometry feature type on Part 2 used for this mate (axis, edge, face, point, plane).
6. *Feature Name* - The name given to the geometry feature on Part 2 used for this mate (width, length, etc.).
7. *Mate Type* - The type of mating between Part 1 and Part 2.
 - Coincident - positions selected faces, edges, and planes (in combination with each other or combined with a single vertex) so they share the same infinite line. Positions two vertices so they touch
 - Concentric - places the selections so that they share the same center point
 - Perpendicular - places the selected items at a 90 degree angle to each other
 - Parallel - places the selected items so they lie in the same direction and remain a constant distance apart from each other
 - Tangent - places the selected items in a tangent mate (at least one selection must be a cylindrical, conical, or spherical face)
 - Distance - places the selected items with the specified distance between them
 - Angle - places the selected items at the specified angle to each other
8. *Distance* - Distance value when the Mate Type selected is Distance.

9. *Angle* - Angle value when the Mate Type selected is Angle.
10. *Alignment* - The alignment controls how the mates will be placed with respect to another.
 - Aligned - The orientation vectors will be in alignment.
 - Anti-Aligned - The orientation vectors will be opposite one another.
 - Flip - Flip will reverse the alignment from Aligned to AntiAligned or vice versa.
11. Buttons -
 - OK - Save and close.
 - Cancel - Close without saving.

Adding Geometry Positioning

Context - Displays the constraint Context (Owner Part Family and Subpart path used). All non-local constraints are also referred to as "overrides". An asterisk (*) denotes that a formula exists for this context.

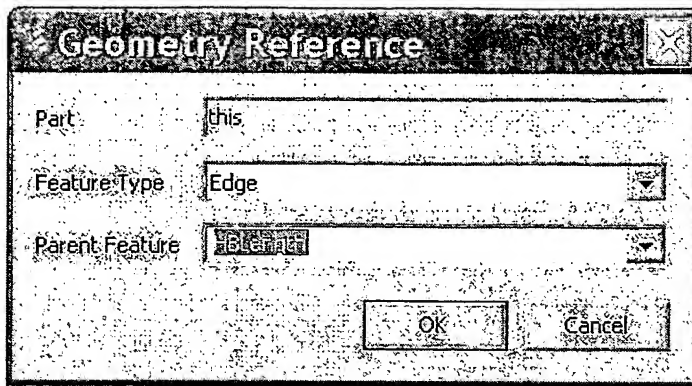
- **Fix Position** - This will place the geometry shape at the point [x,y,z] in Cartesian coordinates.



1. *Part* - The part that is defining the shape (this).
2. *X* - The x coordinate value.
3. *Y* - The y coordinate value.
4. *Z* - The z coordinate value.
5. Buttons -
 - OK - Save and close.
 - Cancel - Close without saving.

Adding a Geometry Reference

- **References** - References are used to properly define the orientation of a library feature. The required number of references depends on the definition of the geometry library feature. One reference command is necessary for each mandatory reference in the geometry system and the order of the commands must be the same as the order required in the geometry system.



1. *Part* - The part that is defining the shape (this).
2. *Feature Type* - The geometry feature type for the reference (axis, edge, face, point, plane).
3. *Parent Feature* - The name of the feature on the parent geometry (DatumPlane, FrontFace, CenterLine, etc.).
4. Buttons -
 - o OK - Save and close.
 - o Cancel - Close without saving.

• Other Buttons

- Edit - Select an existing Positioning command so that it is highlighted and click this button to edit the command.
- Copy - Select an existing Positioning command so that it is highlighted and click this button to copy the command.
- Delete - Select a Positioning command so that it is highlighted and click on this button to remove the command.
- Move Up - Select a Positioning command so that it is highlighted and click on this button to move the Command up in the list of commands.
- Move Down - Select a Positioning command so that it is highlighted and click on this button to move the command down in the list of commands.

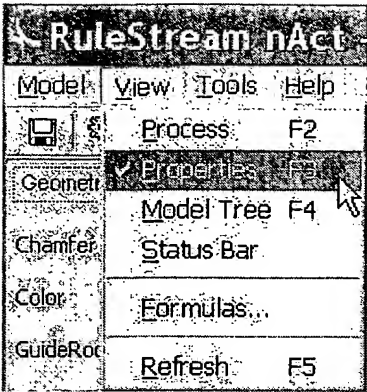
nAct - Designer Window - Properties Pane

Tool Bar - Click on the Show/Hide Properties
Pane Icon to show/ hide the properties list.



OR

Menu Bar - Select View / Properties from the
Menu bar to display the properties list in the
designer window.



The following is an example of how the properties list appears in the designer window:

*** RuleStream nAct - Model Designer - This is My Caption - Test Custo...**

Model View Tools Help

PistonPlate

Alphabetic Categorized

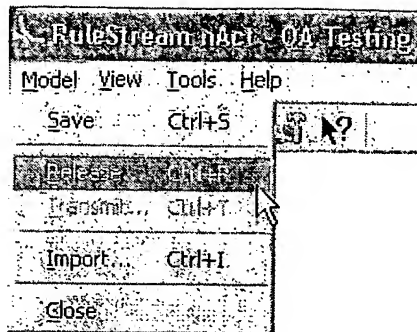
Property	Value
Chamfer1.Suppress	False
Color	None
GuideRodDegrees	247.369500282661
Length	1.5748031496063
Name	GuideRod
OUTSIDEDIAMETER	0.31496062992126
Part Family Desc	Used for testing Solidworks in the QA environment.
Part Family Name	Guide Rod
Part Number	
Score	0
ShowComponent	False
Subpart Index	1

Part name

Used for testing Solidworks in the QA environment.

nAct Designer Window - Release Line Item

1. Open nAct / Select a Project / Edit the Model for a line item / Change applicable information in the model.



2. Select Model / Release

 A screenshot of the 'Release' dialog box. It contains the following fields and controls:

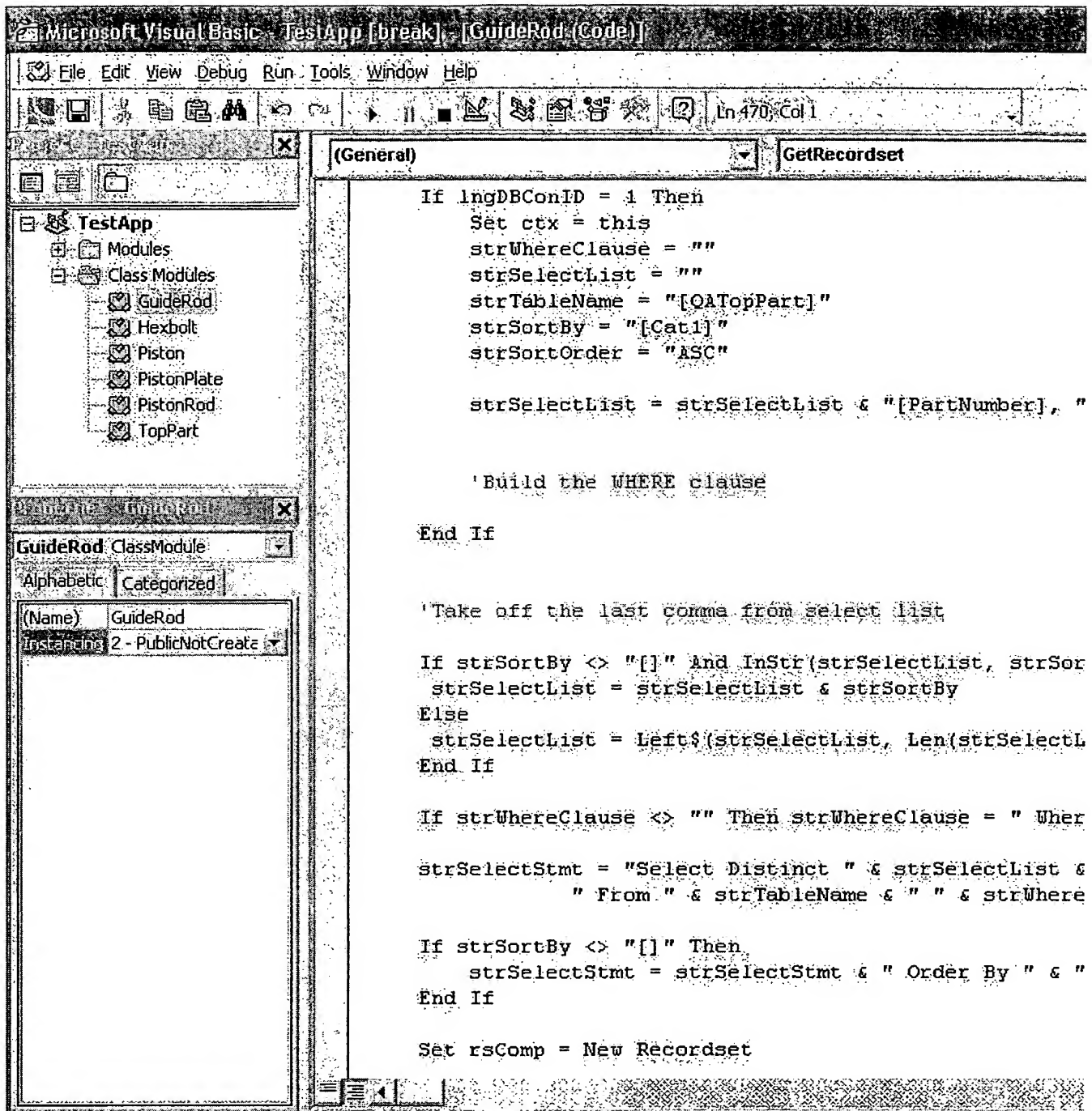
- Release Label:** A text field containing 'Release Test'.
- Type:** A dropdown menu showing 'Engineering'.
- Description:** A text area containing 'Test the release process...'.
- Transmit:** A checked checkbox.
- Select Reports to be Transmitted:** A table with columns 'Report', 'Last Transmit User', and 'Last Transmit Date'. The table contains two rows: 'Bomtest' and 'Engineering', both of which are highlighted.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.


3. Release Label - Enter a name in the Release Label field.
4. Type - Select the type of release.
5. Description - Enter a description.
6. Transmit - Click on this check box if the release is to be transmitted.
7. Select Reports to be Transmitted - Click on the reports that are to be transmitted so that they are highlighted.
8. Buttons -

- OK - Click on this button to perform this release of the line item.
 - Cancel - Click on this button to close out of the Release Window without releasing the model.
9. Close out of the Designer window by click on the "X" or select Model/Close. (nAct will navigate back to the project window.)


nAct - VB Formula Window

Formula- When this option is selected the Microsoft Visual Basic window will open so the developer can work on formulas from within nAct.



1. Double click the part to be modified from the project tree to open.
2. Select the formula from the '(Declarations)' drop down list.
3. Modify the formula accordingly.
4. Click on this  icon to save the information that was changed in a formula. The information that was changed will also be changed in nAct Expert when it is saved from the VB window.
Note: If a value was changed in a formula the user will need to select Tools/Calculated Values/Recalculate All Parts or Recalculate Selected Part for the value to be changed on the current parts

in nAct.

5. Click on this  icon to return to nAct. If formulas were changed they will need to be saved prior to clicking on this icon..

Transmit Process

Note: Reports must first be created with Transmit information selected in BOM Maintenance before this process can be run.

The line item must be released prior to transmitting or along with transmitting.

The way Transmit works is first it runs the reports for which you have filled out the transmit info.

Then it exports the reports in specified format, changes their extension to the specified extension and place it in the Releases folder.

The next step is to run a batch file named "Transmit.Bat" (which is supposed to do the actual work of transmitting the reports to wherever you want).

The Transmit.bat file is passed command line arguments for Release Path (so that it can locate the reports), the projectid, lineitemid and releaseid.

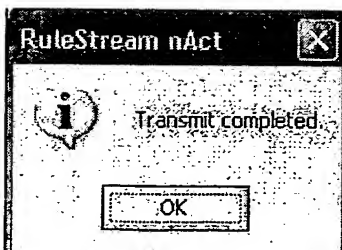
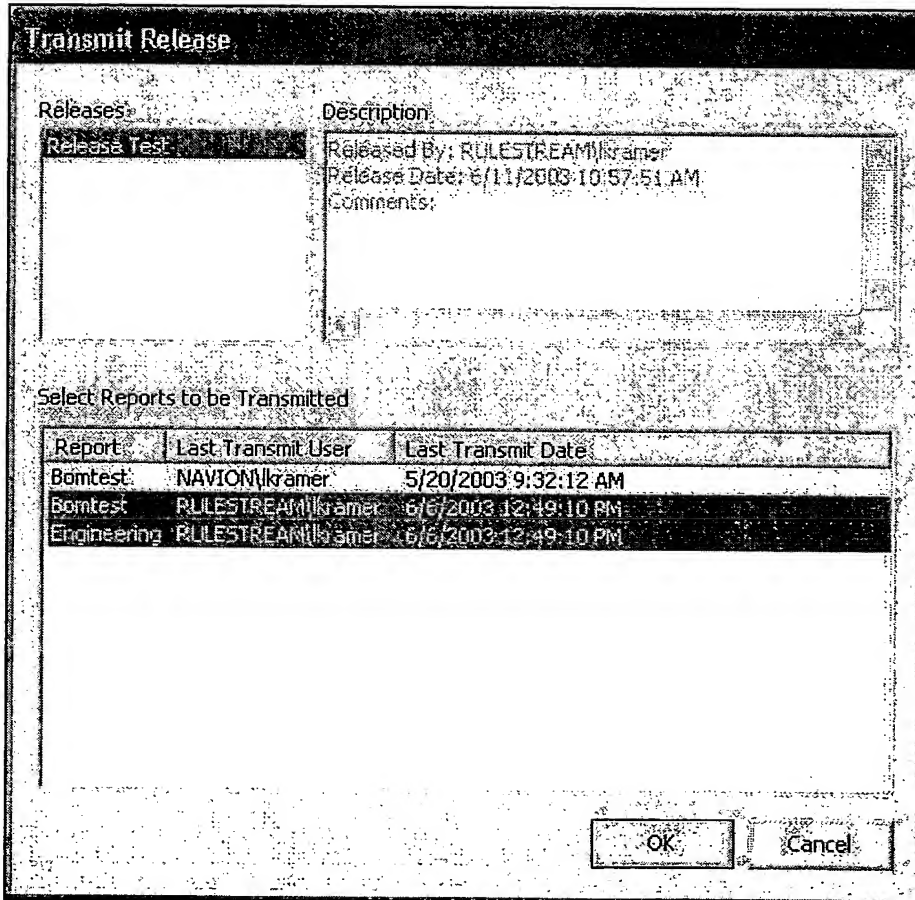
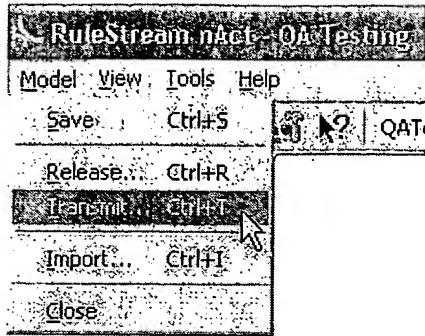
These last 3 arguments can be used for adding further logic to the batch file.

I am going to attach a sample transmit.bat file (which you will need to modify to suit your needs).

As an example, one of the things you can do is build an ftp script and run it from the batch file...the ftp script might take the reports and ftp them to the server where ? runs.

The Transmit process can be executed in 3 ways:

1. Along with the release of a line item.
2. After a released line item.
3. From the Reports Viewer.



Transmit.bat file -  Transmit.bat 2 KB MS-DOS Batch File

nAct Error Messages

The following is a breakdown of error messages that may occur when using nAct. Click on the link to display the message, cause and resolution.

[2D Cannot Connect Parts](#)

[Checkout to local db Option](#)

[Error compiling a dll](#)

[Login error messages](#)

[Missing Class Files](#)

[nAct Crash exiting VB Formula](#)

[New Part Family xsl](#)

[No SolidWorks License](#)

[No Visio License](#)

[nServeManager not installed](#)

[Optimal Part File Missing](#)

[Refresh Template error](#)

[Reserved Word Error](#)

[Subpart Name Cannot Contain Spaces](#)

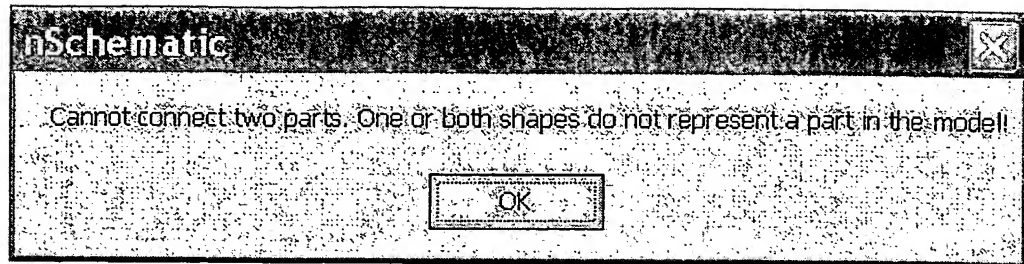
[This value is out of range for this property](#)

[Value must be a date](#)

[Value must be numeric](#)

2D Cannot Connect Parts

Message:



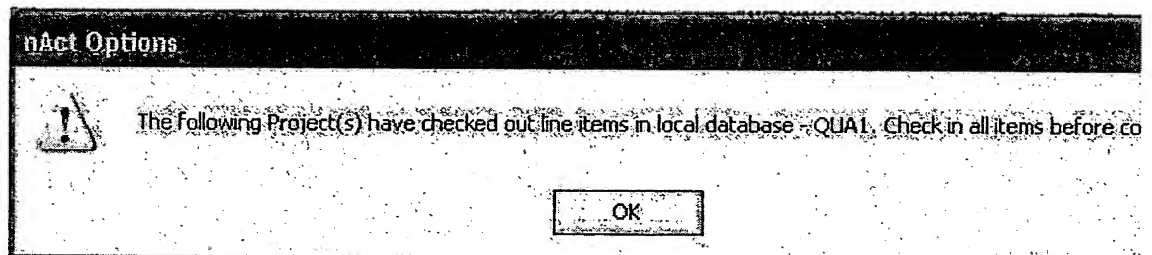
Cause: Occurs when trying to connect 2D parts that are missing the connection information.

Resolution:

1. Click on OK.
2. Go back into nAct Expert and set up the connection information (specs, glue points, etc).

Check Out to Local Database Error

Message:

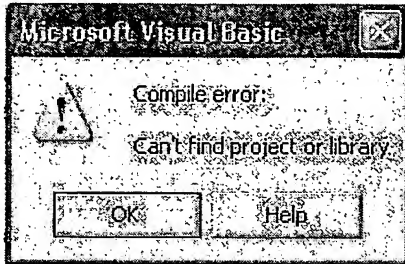


Cause: Occurs when trying to uncheck the "Check out to local database" option in the nAct Options window under Advanced Options.

Resolution:

1. Click on OK.
2. Check In all line items that are checked out to the local database. .
3. Uncheck the "Check out to local database" option in the nAct Options window under Advanced Options.

Error during compile when creating a ".DLL"

Message:

Cause: Occurs when trying to compile the VB Project to create a ".dll".

Resolution:

1. Click on OK.
2. Make sure everything is referenced correctly.

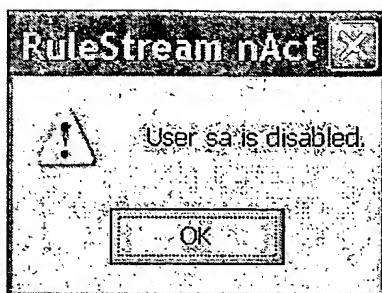
nAct Login Errors

The following is a breakdown of error messages that may occur when logging in to nAct. Click on the links to display the message, cause and resolution.

- [Disabled User](#)
- [Expired License](#)
- [Invalid Database Name](#)
- [Invalid License Key](#)
- [Invalid RuleStream User](#)
- [Invalid Server Name](#)
- [Invalid User Id / Password](#)
- [License will Expire in Days](#)
- [Missing Site Settings](#)

User "sa" is disabled.

Message:



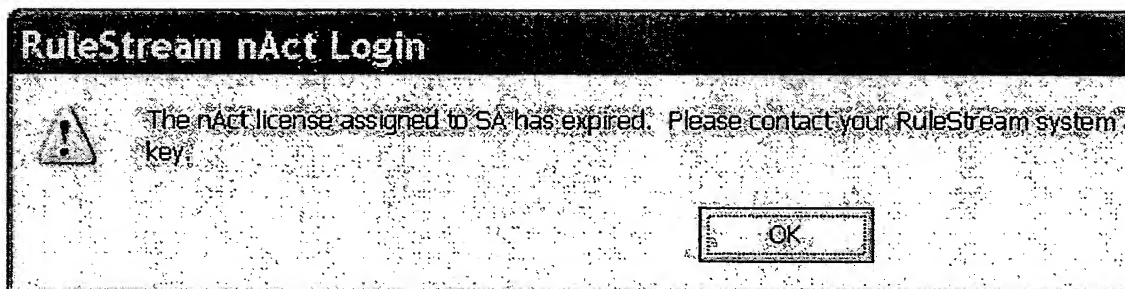
Cause: Occurs when trying to log on to nAct and user type is set to disabled.

Resolution:

1. Click on OK.
2. Contact System Administrator to have user type corrected.

The nAct license assigned to "sa" has expired.

Message:

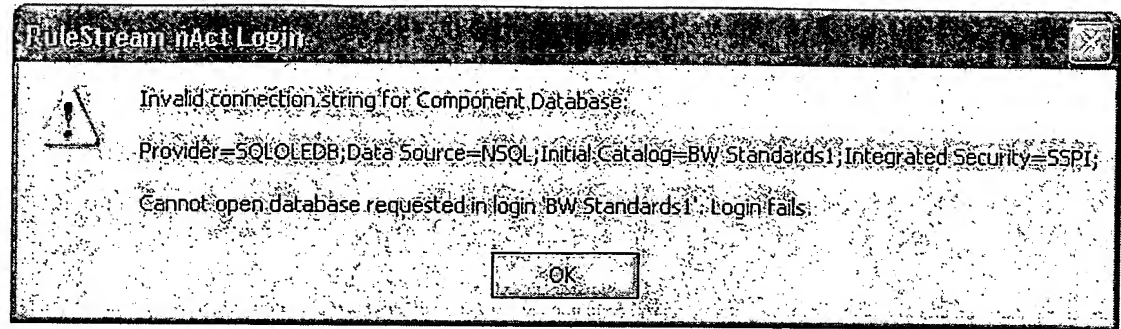


Cause: Occurs when trying to log on to nAct and the user license key has expired.

Resolution:

1. Click on OK.
2. Contact System Administrator to obtain a new license key.

Invalid Database Name

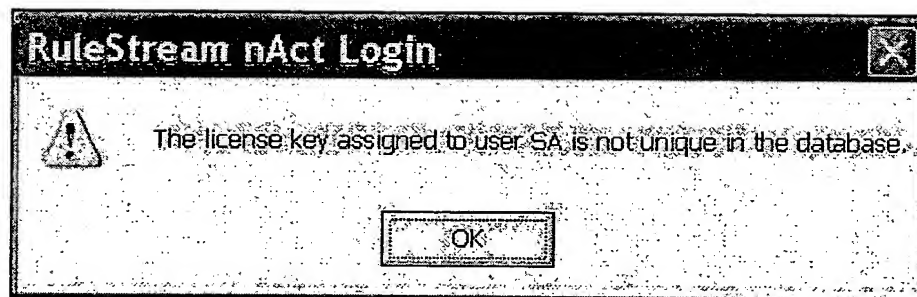
Message:**Cause:**

Occurs when an invalid database name is entered in the Database set up in nAct Options.

Resolution:

1. Click on OK.
2. Open nAct Options.
3. Click on the applicable profile.
4. Review and correct the database name information.

The license key assigned to user sa is not unique in the database.

Message:**Cause:**

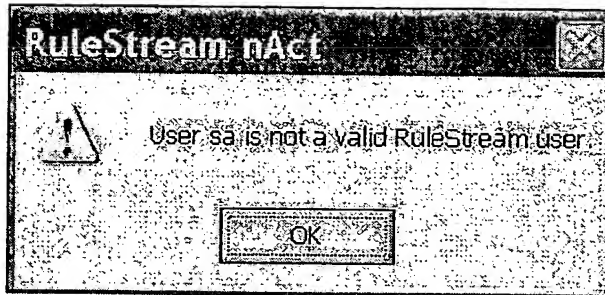
Occurs when trying to log on to nAct and the user license key is not valid. This usually occurs when two different users have been assigned the same license key.

Resolution:

1. Click on OK.
2. Contact System Administrator to obtain a new license key.

User sa is not a valid RuleStream User.

Message:



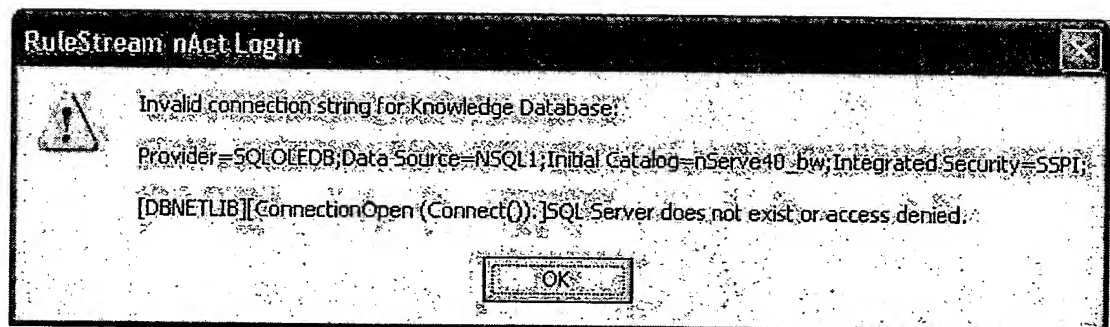
Cause: Occurs when user tries to log on to nAct and they are not set up as a valid user.

Resolution:

1. Click on OK.
2. Contact System Administrator to set you up as a valid user in the User Manager.

Invalid Server Name

Message:



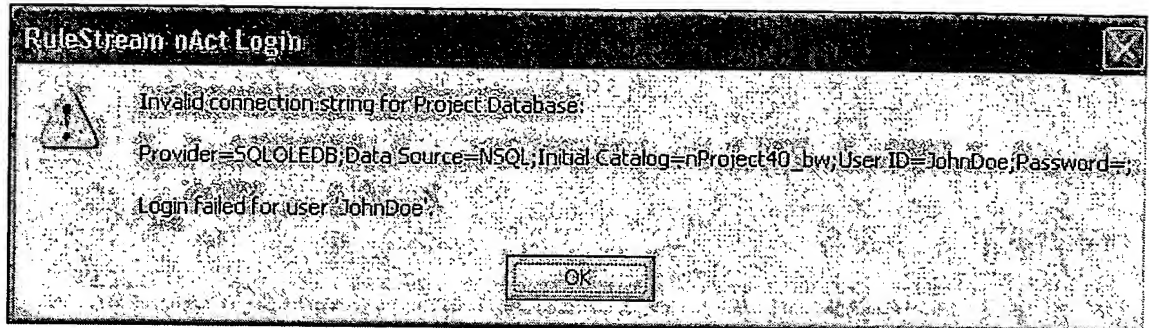
Cause: Occurs when user tries to log on and an invalid server name is entered in the Database information section of nAct Options.

Resolution:

1. Click on OK.
2. Open nAct Options.
3. Click on the applicable profile.
4. Review and correct the server name information. (Note: If using a Local server, it must be entered as (local). Parenthesis are required to enclose the work local.)

Invalid User ID/Password

Message:



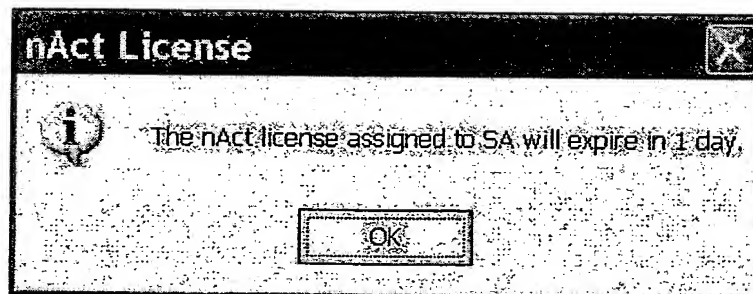
Cause: Occurs when trying to log on with an invalid user id or password.

Resolution:

1. Click on OK.
2. Try logging on again with a valid User ID/Password.

The nAct license assigned to sa will expire in "#" Day.

Message:

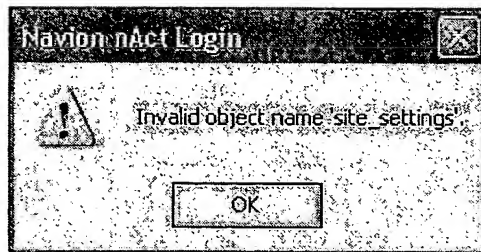


Cause: This warning occurs when trying to log on to nAct and the user license is due to expire in the days stated. Access to nAct is not denied at this point but will be one the license has expired.

- Resolution:**
1. Click on OK.
 2. Contact System Administrator to obtain a new license key.

Missing Site Settings Information

Message:

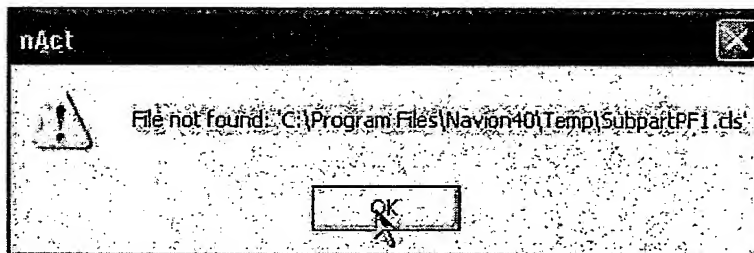


- Cause:**
- Occurs when the user tries to log in to the application when all of the required information has not been entered for the new profile in Site Settings under Administer System Settings.

- Resolution:**
1. Click on OK.
 2. Contact System Administrator to verify information has been entered.

Missing Class Files - File not found error

Message:

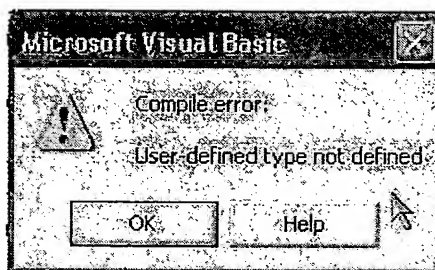


- Cause:**
- Occurs when the user has selected 'No' from the "Parts have changed from the last code generation" prompt and they still try to edit a model. There are actually no class files created for application on the selected model.

- Resolution:**
1. Click on OK.
 2. Code generate, then try to edit the model again.

nAct Crash when trying to exit VB Formula that errored

Message:

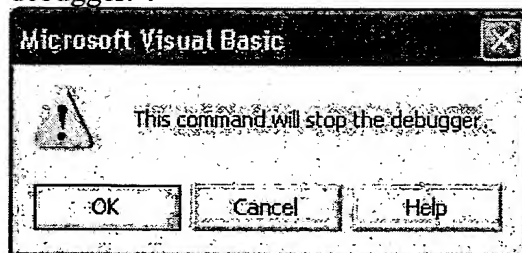


Cause:

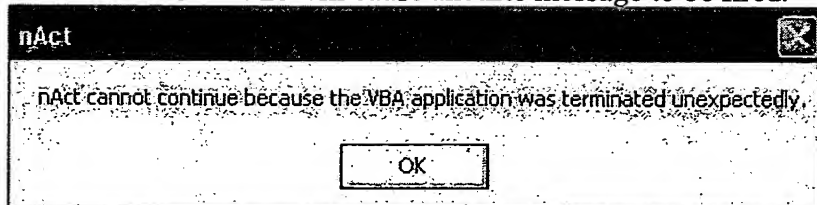
Occurs in the VB formula window when trying edit a model that does not have class files or has outdated class files. This error will cause nAct to crash. The user will need to re-code generate everything for the applicable application prior to editing a model.

Resolution:

1. Click on OK.
2. A Microsoft VB window will be displayed stating "This Command will stop the debugger."



3. Click on OK - this will cause another message to be fired.

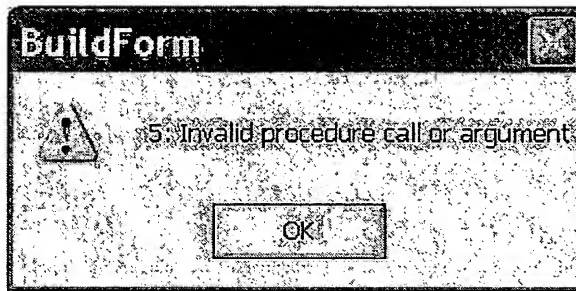


4. Click on OK. nAct will shut down completely. Re-Open nAct, code generate,

then try editing the model again.

New Part Family "xsl" file

Message:



Cause:

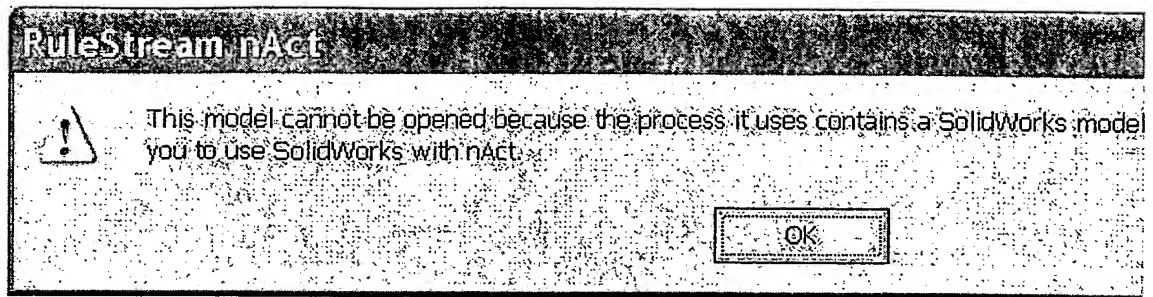
Occurs when a new release or service release has been installed that contains a new PartFamily.xsl file and the user tries to edit a model without code generating all of the class files for the application.

Resolution:

1. Click on OK.
2. Code generate, then try to edit the model again.

This model cannot be opened because the process it uses contains a SolidWorks model and your user license does not allow you to use Solidworks with nAct.

Message:



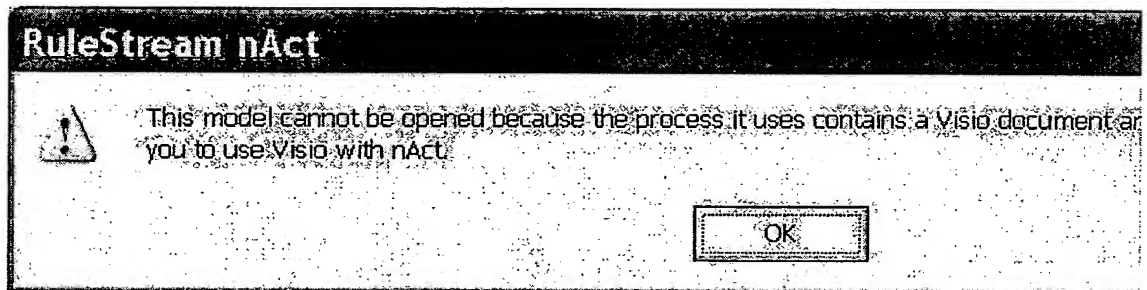
Cause: Occurs when trying add or edit a model that contains a process step that uses Solidworks.

Resolution:

1. Click on OK.
2. Contact System Administrator to obtain a license that allows the use of Solidworks or set up to use the 3D Geometry Viewer.

This model cannot be opened because the process it uses contains a Visio document and your user license does not allow you to use Visio with nAct.

Message:



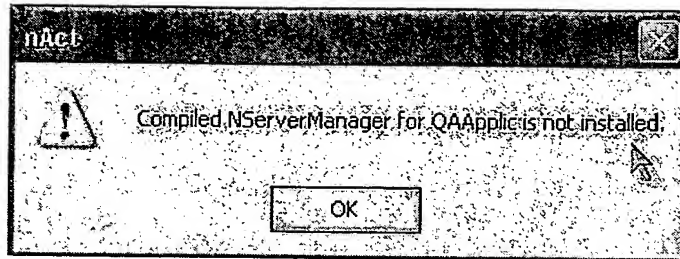
Cause: Occurs when trying add or edit a model that contains a process step that uses Visio.

Resolution:

1. Click on OK.
2. Contact System Administrator to obtain a license that allows the use of Visio or use a up to use the 2D Schematic Viewer.

Compiled nServeManager not installed

Message:



Cause:

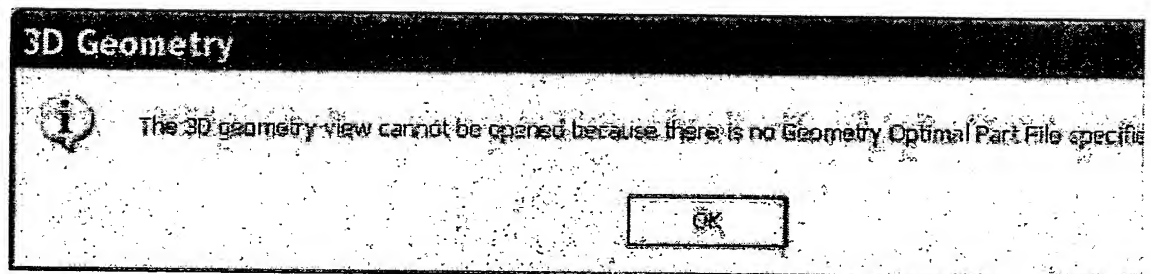
Occurs when the nAct Options/Advanced Options are set to run in "Compiled Mode (DLL)" and the actual ".dll" is missing or has not yet been created.

Resolution:

1. Click on OK.
2. Code generate with the "Create Visual Basic Project File".
3. Go to the Temp folder located in the C:/Program Files/Navion40 directory.
4. Double click on the Visual Basic Project that was created to open.
5. Select File/Make XYA.dll (Make sure the nKernel reference is set otherwise it will error.)

Optimal Part File Missing

Message:



Cause:

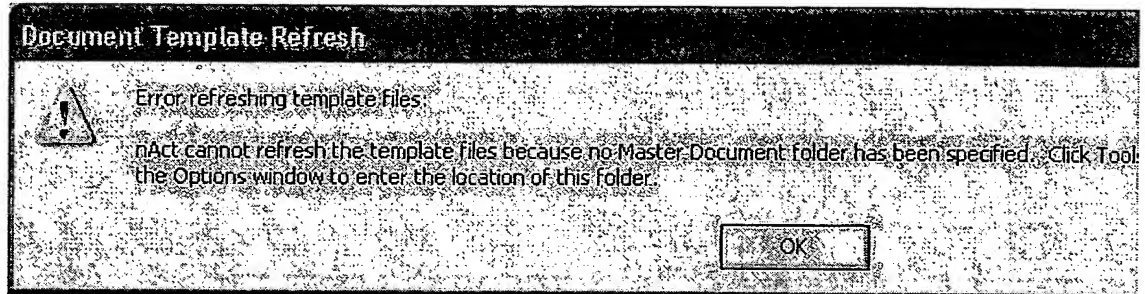
Occurs when there is no Optimal Part File specified for the Top-Level Part.

Resolution:

1. Click on OK.
2. Go back into nAct Expert and add the Optimal part File to the top-level part. Will need to regenerate when going back into the model to edit it.

Refresh Templates Error

Message:



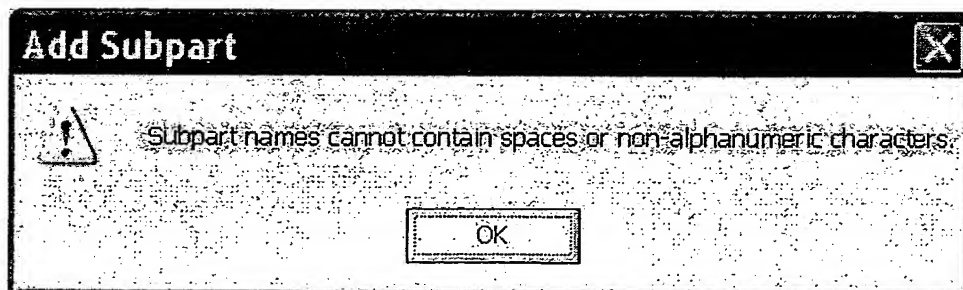
Cause: Occurs when the path for the Master Documents has not been entered in nAct Options fo

Resolution:

1. Click on OK.
2. Open nAct Options .
3. Click on the applicable profile.
4. Enter the correct path for the Master Documents .

Subpart names cannot contain spaces or non-alphanumeric characters

Message:



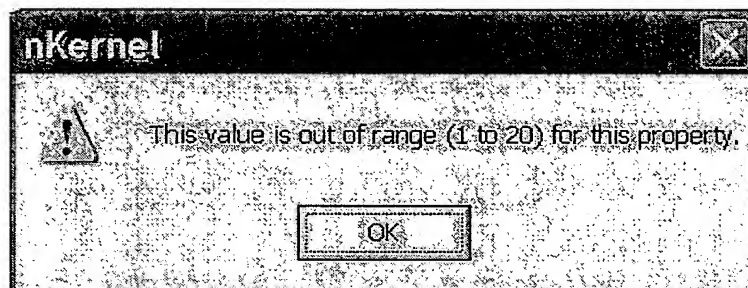
Cause: Occurs when trying to add a subpart during run-time and the name contains a space.

Resolution:

1. Click on OK.
2. Rename subpart without using spaces.

This value is out of range (Min Value to Max Value) for this property.

Message:



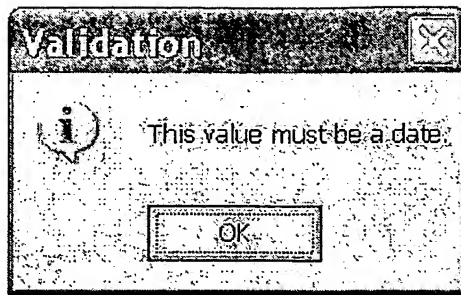
Cause: Occurs user tries to enter a value on a property that is outside of the stated Minimum and Maximum value range.

Resolution:

1. Click on OK.
2. Enter a value that is within the stated range.

This value must be a date.

Message:



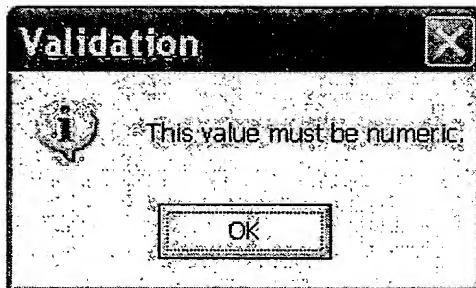
Cause: Occurs when trying to enter an invalid numeric or alpha value on a property that has a "Date" datatype.

Resolution:

1. Click on OK.
2. Enter a valid date.

This value must be numeric.

Message:



Cause: Occurs when trying to enter a non-numeric value on a property that does not have "String" as the datatype .

Resolution:

1. Click on OK.
2. Enter a numeric value or go back to nAct Expert and change the datatype to "String".

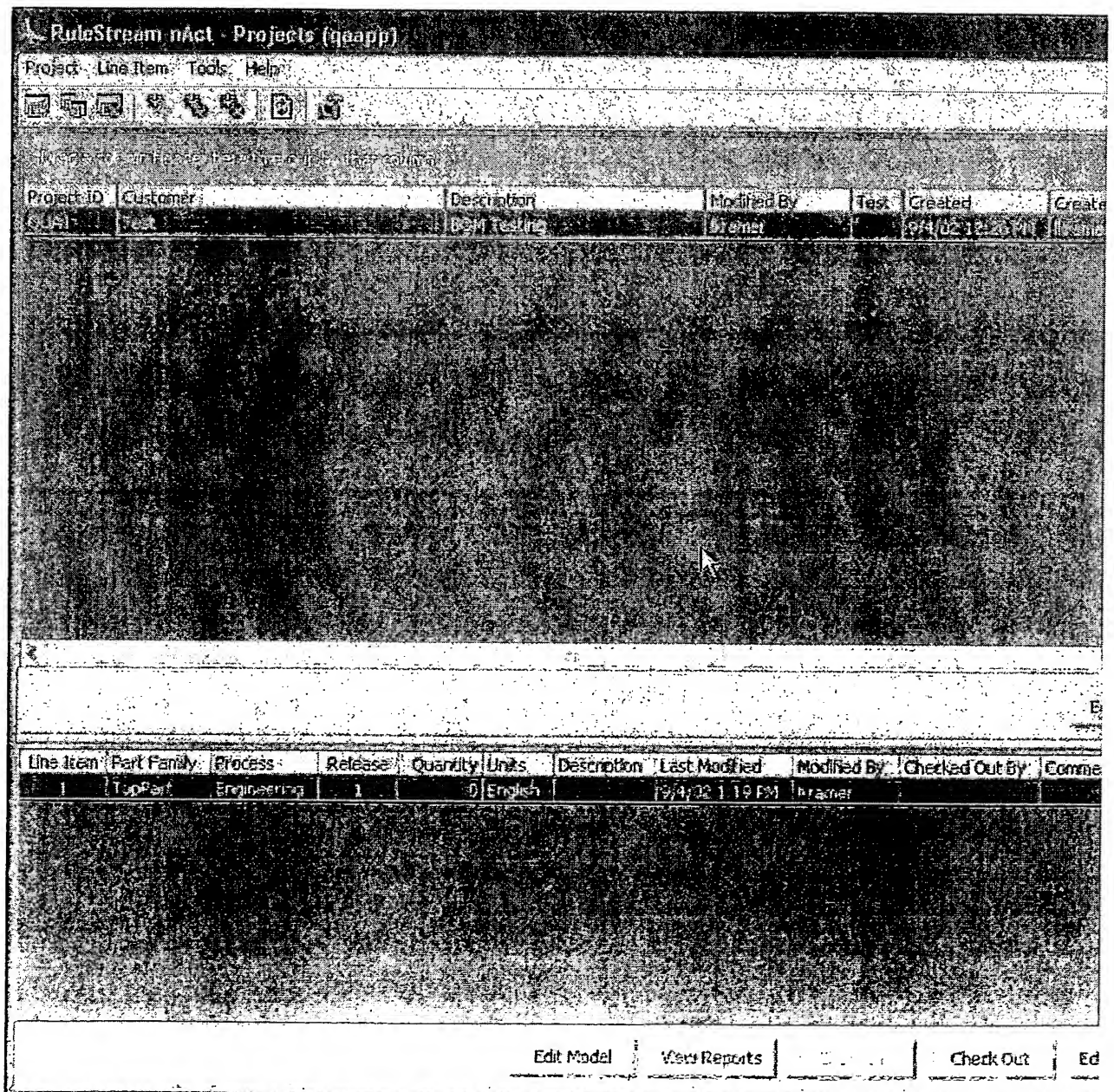
nAct Reports

Click on the links to display the steps to follow for releasing a line item and viewing a BOM Report in nAct.

- [Releasing the Line Item](#)
- [Project Window - View Reports Button](#)
- [ReleaseViewer - Display Reports](#)

nAct - Project Window - View Reports

Project Window - Displays the project and line item information.












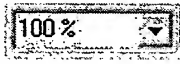

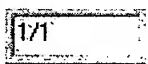
1. Verify the line item displays the correct release number. (Click on the refresh icon if it does not, so that the window refreshes.)
2. Highlight the released line item.
3. Click on the "View Reports" button to open the Release Viewer window.

nAct - Release Viewer

Release Viewer - Displays the Report information.

The screenshot shows the 'Release Viewer' window. At the top, there's a 'Releases' section with a dropdown menu showing '3: BOM Release 1' and a 'Transmit' button. To the right, it displays 'Released By: NAVION\kramer', 'Release Date: 9/4/2002 1:51:59 PM', and 'Comments: BOM Release 1'. Below this is a 'Reports' section with tabs for 'Drawings' and 'Solid Models'. Under 'Solid Models', the 'Available Items' dropdown shows 'BOM Report'. A toolbar contains buttons for 'Export', 'Print', and various view icons, along with a 'Page Width' dropdown and a '1/1' page indicator. The main content area displays a 'BOM Report' table with four columns: 'INSIDEDIAMETER', 'LENGTH', 'OUTSIDEDIAMETER', and 'PLATEWIDTH'. The table contains two rows of data.

INSIDEDIAMETER	LENGTH	OUTSIDEDIAMETER	PLATEWIDTH
0.17	0.25	0.50	0.35
		0.25	

1. Releases - Select the applicable release from the drop down list.
2. Transmit button - Click on this button to transmit the report.
3. Available Items - Select the applicable report from the drop down list of reports and it will automatically get displayed in the viewer.
4. Click on the  icon to view the table of contents (if available).
5. Click on  to export the report.
6. Click on the Printer  icon or Print to print the report.
7. Click on the Copy  icon to copy the report (not currently set up to be used).
8. Click on the Find  icon to display the find window.
9. Click on the Single Page  icon to view a single page of the report.
10. Click on the Multiple Pages  icon to view multiple pages of a report.
11. Click on the Zoom Out  or Zoom In  icon to zoom in and out on the page/
12. Click on the View drop down  to increase or decrease the size of the view.
13. Click on the Up and Down arrows  to move the report to the Previous Page or Next Page if there are multiple pages.
14.  Displays the number of pages and the page that is currently being displayed.

Batch Import Overview

The batch import process provides the functionality to load changes to the model through a batch process from within nAct. There is a standard interface and standard data format for the Import Utility. This process also allows the customer to load designs that are currently active into the RuleStream system.

Database Tables

- Header Table
- Detail Table

- Model Part Table

Transaction Types

- Add
- Modify
- Delete
- Connect
- Disconnect

Miscellaneous

- Batch Import - New Model
- Batch Import - Existing Model
- Batch Import Errors
- Batch Import FAQ

Batch Import Header Table

This table is located in the Project database.

The Header table stores information for each batch group of changes. For each batch group of changes, a customer is going to have a unique identifier called Customer Reference Number. If the batch is for a brand new model, then the Model Id and Release Id are null.

Data in Table 'Batch_Import_Header' in 'nProject52_qa' on 'NSQL'

	Customer Ref No	Project ID	LineItem ID	Change Type	UDF1	UDF2	UDF3	UDF4	Customer Name	Description
	Error Test	QJA000650	3	0	<NULL>	<NULL>	<NULL>	<NULL>	<NULL>	<NULL>
	Existing Model	QJA000650	2	0	<NULL>	<NULL>	<NULL>	<NULL>	<NULL>	<NULL>
	New Model	<NULL>	<NULL>	0	<NULL>	<NULL>	<NULL>	<NULL>	<NULL>	<NULL>

Batch Import Detail Table

This table is located in the Project database.

The Detail table contains the detailed import information. The table columns are explained in further detail by the type of transaction being processed.

Data in Table 'Batch_Import_Detail' in 'nProject52_qa' on 'NSQL'

	Batch_Import_Detail_ID	Customer_Ref_No	Change_Type	Navion_ID	Customer_ID	Owner_Navion_ID	Owner_Customer	Re
16		New Model	1	<NULL>	BatchUtilityTest4	0	<NULL>	Be
17		New Model	1	<NULL>	Level3d	<NULL>	BatchUtilityTest4	Ba
18		New Model	1	<NULL>	Level4d	<NULL>	Level3d	Ba
19		New Model	1	<NULL>	BatchUtilityTest5	0	<NULL>	Ba
20		New Model	1	<NULL>	Level3e	<NULL>	BatchUtilityTest5	Ba
21		New Model	1	<NULL>	Level4e	<NULL>	Level3e	Ba
22		New Model	6	<NULL>	<NULL>	<NULL>	Level3d	Bc
23		New Model	6	<NULL>	<NULL>	<NULL>	Level3d	Cc
24		New Model	6	<NULL>	<NULL>	<NULL>	Level4e	Cf
25		New Model	6	<NULL>	<NULL>	<NULL>	Level4e	Ve
26		New Model	4	<NULL>	Level4d	<NULL>	BatchUtilityTest4	Cc
*								

Batch_Import_Detail_ID - Unique number identifying the transaction.

Customer_Ref_No - Unique Identifier for the batch of changes being processed for a particular model.

Change_Type -

- 1 - Add a new part.
- 2 - Delete a Customer Added Part
- 3 - Delete a Customer's Customer Added Part
- 4 - Connect
- 5 - Disconnect
- 6 - Modify Part -

Navion_ID - If Change type =

1 (Add) - If 0 this will indicate a new line item /top level part (not available with a header change type of 0), otherwise <null> because this Id is assigned automatically when a model is saved.

2/3 (Delete) - Enter the Navion_ID number of the part being deleted. (If this number is unknown it can be located under the ObjId field in the Model Parts table.)

4 (Connect) - Enter the Navion_Id number of the part being connected to. (For example if we want to connect 'A' to 'B', 'B' would be the part 'A' is being connected to.) User must enter this Id or the Customer_Id in the field in order for the Connection to be processed correctly. Both fields cannot be left blank.

5 (Disconnect) - Enter the Navion_Id number of the part being disconnected. (For example if we want to disconnect 'A' from 'B', 'B' would be the part 'A' is being disconnected from.) User must enter this Id or the Customer_Id in the field in order for the part to be disconnected correctly. Both fields cannot be left blank.

6 (Modify) - Not applicable for this type of transaction.

Customer_ID - If Change type =

1 (Add) - This id is supplied by the customer and is external to the customer.

2/3 (Delete) - Enter the Customer_Id number of the part being deleted. (If this number is unknown it can be located under the Customer Id field in the Model Parts table.)

4 (Connect) - Enter the Navion_Id number of the part being connected to. (For example if we want to connect 'A' to 'B', 'B' would be the part 'A' is being connected to.) User must enter this Id or the Customer_Id in the field in order for the Connection to be processed correctly. Both fields cannot be left blank.

5 (Disconnect) - Enter the Navion_Id number of the part being connected to. (For example if we want to disconnect 'A' from 'B', 'B' would be the part 'A' is being disconnected from.) User must enter this Id or the Customer_Id in the field in order for the part to be disconnected correctly. Both fields cannot be left blank.

6 (Modify) - Not applicable for this type of transaction.

Owner_Navion_ID - If Change type =

1 (Add) - Enter '0' if part is being added directly to the top-level part. If a part is added to an existing part in the model, the Owner_Navion_Id would be used instead of the Owner_Customer_Id. This number can be referenced by locating the applicable ObjID/or ParentID in the Model Part Table. The ParentId is the Owner of the ObjId. Unless a top level part (see above), User must enter this Id or the Owner_Customer_Id in order for the added part to be processed.

2/3 (Delete) - Enter '0' if part is being deleted directly from the top-level part. If a part is deleted from an existing part in the model, the Owner_Navion_Id would be used instead of the Owner_Customer_Id. This number can be referenced by locating the applicable ObjID/or ParentID in the Model Part Table. The ParentId is the Owner of the ObjId. User must enter this Id or the Owner_Customer_Id in order for the delete transaction to be processed correctly. Both fields cannot be left blank.

4 (Connect) - Enter the Navion_Id number of the part that owns the connection. (For example if we want to connect 'A' to 'B', 'A' is the owner of the connection.) User must enter this Id or the Navion_Id in the Owner_Navion_Id field in order for the Connection to be processed correctly. Both fields cannot be left blank.

5 (Disconnect) - Enter the Navion_Id number of the part that owns the connection. (For example if we want to Disconnect 'A' from 'B', 'A' is the owner of the connection.) User must enter this Id or the Navion_Id in the Owner_Navion_Id field in order for the part to be disconnected correctly.

Both fields cannot be left blank.

6 (Modify) - Enter the Navion_Id number of the part that is being modified. Either this field or the Owner_Customer_Id must be entered. Both fields cannot be left blank.

Owner_Customer_ID - If Change type =

1 (Add) - If Owner_Navion_Customer_Id is NOT known then enter the Owner_Customer_Id. (For example this would be used when a part is being added below another part that is also being added.) Unless a top level part (see above), User must enter this Id or the Owner_Customer_Id in order for the added part to be processed.

2/3 (Delete) - If a part is deleted from an existing part in the model, the Owner_Navion_Id would be used instead of the Owner_Customer_Id. User must enter this Id or the Owner_Customer_Id in order for the delete transaction to be processed correctly. Both fields cannot be left blank.

4 (Connect) - Enter the Customer_Id number of the part that owns the connection. (For example if we want to connect 'A' to 'B', 'A' is the owner of the connection.) User must enter this Id or the Navion_Id in the Owner_Navion_Id field in order for the Connection to be processed correctly. Both fields cannot be left blank.

5 (Disconnect) - Enter the Customer_Id number of the part that owns the connection. (For example if we want to connect 'A' to 'B', 'A' is the owner of the connection.) User must enter this Id or the Navion_Id in the Owner_Navion_Id field in order for the part to be disconnected correctly. Both fields cannot be left blank.

6 (Modify) - Enter the Navion_Id number of the part that is being modified. Either this field or the Owner_Customer_Id must be entered. Both fields cannot be left blank.

Reference_Name - If Change type =

1 (Add) / 2/3 (Delete) - Enter the name of the Subpart Link.

4 (Connect) / 5 (Disconnect) - Enter the Navion Connection Name.

6 (Modify) - Enter the Navion Property Name. (For example: Height, Length, Width, etc.)

Value - If Change type =

1 (Add) - Type in the name of the part that is being added.

2/3 (Delete) / 4 (Connect) / 5 (Disconnect) - Not applicable for this type of transaction.

6 (Modify) - Enter the new value of the property. Must be compatible with the data type.

Data_Type - If Change type =

1 (Add) - Type in the Part Family Name or the type of Part to be added. Can also be found by referencing the Type Name information in the Model Parts Table.

2/3 (Delete) / 4 (Connect) /5 (Disconnect) - Not applicable for this type of transaction.

6 (Modify) - Enter the data type of the property. (For Example: Long, Double, Boolean, etc.)

Description - Optional Entry field – Type in a description of the part.

Comments - Optional Entry field – type any additional information applicable to the part.

Processed -

0 = Not Processed

Batch Import Model Part Table

Model_Part_Table – A Customer_ID column has been added to the model_part_table

This table is in the Project database.

Data in Table 'Model Part' in 'nProject51_qa' on 'NSQL'										
	Project ID	LineItem ID	ObjID	ObjName	Part Family	Part Family ID	OwnerID	ParentID	SubPartID	ContextID
	QUA614	16	0	QATopPart	QATopPart	1477	<NULL>	<NULL>	0	
	QUA614	16	340	BatchUtilityTest1	BatchUtilityTest1	1521	56	0	1	2047
	QUA614	16	355	BatchUtilityTest3	BatchUtilityTest3	1522	56	0	2	2047
	QUA614	16	686	Level3b	Level3a	1518	679	671	1	2052
	QUA614	16	698	Level4b	Level4a	1519	691	686	1	2051

Batch Import Transaction Types

Click on any of the following links to view specific transaction information.

[Add](#)

[Modify](#)

[Delete](#)

[Connect](#)

Disconnect

Batch Import - Add Transactions

Add - This transaction is used when adding a new part to the model. Since this is set to automatic mode the utility will destroy any existing parts associated with that subpart id under the selected part. (The Utility will take the parent_id, subpart collection name and Customer_Id as parameters. It will add a part to the specified parent's subpart collection and assign its id.)

- Adding connections and modifying properties of the part being added can also be done at the same time.
- The top part can not be added using this Import Utility
- If record with an Add change type is associated with change types of Connect, Disconnect or Modify, then these records must provide the Customer_Id and Customer_Owner_Id.

Batch Import Detail Table	Batch Import Header Table	Model Parts Table	Explanation
Batch_Import_Detail_Id			Unique number identifying the transaction.
Customer_Ref_No	Customer_Ref_No		Unique Identifier for the batch of changes being processed for a particular model.
Change_Type			1
Navion_ID			This field would be left null when adding a part because this Id is assigned automatically when a model is saved.
Customer_ID		Customer_Id	This id is supplied by the customer and is external to the customer.
Owner_Navion_ID		ParentId Or ObjID	<p>- Enter '0' if part is being added directly to the top-level part.</p> <p>- If a part is added to an existing part in the model, the Owner_Navion_Id would be used instead of the Owner_Customer_Id.</p> <p>- This number can be referenced by locating the applicable ObjID/or ParentID in the Model Part Table. The ParentId is the</p>

			Owner of the ObjId. - User must enter this Id or the Owner_Customer_Id in order for the added part to be processed. Both fields cannot be left blank.
Owner Customer_Id			- If Owner_Navion_Customer_ID is NOT known then enter the Owner_Customer_Id. (For example this would be used when a part is being added below another part that is also being added.) - User must enter this Id or the Navion_Customer_Id in order for the added part to be processed. Both fields cannot be left blank.
Reference Name			Enter the name of the Subpart Link.
Value			Type in the name of the part that is being added.
Data_Type		TypeName	Type in the Part Family Name or the type of Part to be added. Can also be found by referencing the TypeName information in the Model Parts Table.
Description			Optional Entry field – Type in a description of the part.
Comments			Optional Entry field – type any additional information applicable to the part.
Processed			0 = Not Processed, 1 = Processed
	Model_ID	LineItemId	From the Project Window in nAct, move the mouse pointer over the applicable Part Family Name and the Part Id number is displayed.
	Release		This field is always set to 0.
	Last Modified Date		Refers to the date the batch was created.

Batch Import - Modify Transactions

Modify (for properties only) – Modifies the property on selected part.

- If a record has a change type of Modify that is not related to an Add record, then it would be best

to give the Navion ID's instead of the Customer_ID's.

- This transaction will appear under the Add grid if it is modifying the property on a part that is being added in the same batch of changes otherwise the transaction will appear under the Change grid.
- Connects/Disconnects and Property modifications can be done to the same part in the same batch of changes.

Batch Import Detail Table	Batch Import Header Table	Model Parts Table	Explanation
Batch_Import_Detail_Id			Unique number identifying the transaction.
Customer_Ref_No	Customer_Ref_No		Unique Identifier for the batch of changes being processed for a particular model.
Change_Type			6 = Modify Part
Navion_ID			Not applicable for this type of transaction.
Customer_ID		Customer_Id	Not applicable for this type of transaction.
Owner_Navion_ID		ParentId Or ObjID	Enter the Navion_Id number of the part that is being modified. Either this field or the Owner_Customer_Id must be entered. Both fields cannot be left blank.
Owner Customer_Id			Enter the Navion_Id number of the part that is being modified. Either this field or the Owner_Customer_Id must be entered. Both fields cannot be left blank.
Reference Name			Enter the Navion Property Name. (For example: Height, Length, Width, etc.)
Value			Enter the new value of the property. Must be compatible with the data type.
Data_Type		TypeName	Enter the data type of the property. (For Example: Long, Double, Boolean, etc.)
Description			Optional Entry field – Type in a description of the part.
Comments			Optional Entry field – type any additional information applicable

			to the part.
Processed			0 = Not Processed, 1 = Processed
	Model_ID	LineItemId	From the Project Window in nAct, move the mouse pointer over the applicable Part Family Name and the Part Id number is displayed.
	Release		This field is always set to 0.
	Last Modified Date		Refers to the date the batch was created.

Batch Import - Delete Transactions

Delete – This transaction will take the parent_id, subpart_spec_id and reference name of the part as parameters. It will delete the specified part from the model. All of the fields in the tables should be populated exactly like and add transaction except for the Navion_ID and/or Customer_ID fields. Those fields should display the either the Navion Id or the Customer Id of the part being deleted.

- If the user attempts to delete a part, which does not exist in the current model, no error will be displayed.
- If the user attempts to delete a part at the same time it is being added, the part will be displayed under the Add tab and under the delete tab, but will not error during processing and will not be displayed in the nAct Model tree.

Batch Import Detail Table	Batch Import Header Table	Model Parts Table	Explanation
Batch_Import_Detail_Id			Unique number identifying the transaction.
Customer_Ref_No	Customer_Ref_No		Unique Identifier for the batch of changes being processed for a particular model.
Change_Type			2 = Delete – Customer Added Part 3 = Delete – Customer's Customer Added Part
Navion_ID	ObjID		Enter the Navion_ID number of the part being deleted. (If this number is unknown it can be located under the ObjId field in the Model Parts table.)
Customer_ID		Customer_Id	Enter the Customer_Id number of the part being deleted. (If this number is unknown it can be

			located under the Customer Id field in the Model Parts table.)
Owner_Navion_ID		ParentId Or ObjID	<p>- Enter '0' if part is being deleted directly from the top-level part.</p> <p>- If a part is deleted from an existing part in the model, the Owner_Navion_Id would be used instead of the Owner_Customer_Id.</p> <p>- This number can be referenced by locating the applicable ObjID/or ParentID in the Model Part Table. The ParentId is the Owner of the ObjId</p> <p>- User must enter this Id or the Owner_Customer_Id in order for the delete transaction to be processed correctly</p> <p>- Both fields cannot be left blank.</p>
Owner Customer_Id			<p>- If a part is deleted from an existing part in the model, the Owner_Navion_Id would be used instead of the Owner_Customer_Id.</p> <p>- User must enter this Id or the Owner_Customer_Id in order for the delete transaction to be processed correctly</p> <p>- Both fields cannot be left blank.</p>
Reference Name			Enter the name of the Subpart Link.
Value			Not applicable for this type of transaction.
Data_Type		Type Name	Not applicable for this type of transaction.
Description			Optional Entry field – Type in a description of the part.
Comments			Optional Entry field – type any additional information applicable to the part.
Processed			0 = Not Processed, 1 = Processed
	Model_ID	LineItemId	From the Project Window in nAct, move the mouse pointer over the

			applicable Part Family Name and the Part Id number is displayed.
	Release		This field is always set to 0.
	Last Modified Date		Refers to the date the batch was created.

Batch Import - Connect Transactions

Connects (for connections only) - Connects one part to another part or to multiple parts.

- If the record has a change type of Connect (4) that is not related to an Add record, then it would be best to give the Navion ID's instead of the Customer_ID's.
- User is able to do 1 to 1, 1 too many and Bidirectional connections (Bidirectional connections are loaded using two separate records).
- This transaction will appear under the Add grid if it is adding a connection to a part that is being added in the same batch of changes otherwise the transaction will appear under the Change grid.
- Connects/Disconnects and Property modifications can be done to the same part in the same batch of changes.

Batch Import Detail Table	Batch Import Header Table	Model Parts Table	Explanation
Batch_Import_Detail_Id			Unique number identifying the transaction.
Customer_Ref_No	Customer_Ref_No		Unique Identifier for the batch of changes being processed for a particular model.
Change_Type			4 = Connect
Navion_ID			<p>Enter the Navion_Id number of the part being connected to.</p> <p>(For example if we want to connect 'A' to 'B', 'B' would be the part 'A' is being connected to.)</p> <p>User must enter this Id or the Customer_Id in the field in order for the Connection to be processed correctly.</p> <p>Both fields cannot be left blank.</p>
Customer_ID		Customer_Id	Enter the Navion_Id number of the part being connected to.

			<p>(For example if we want to connect 'A' to 'B', 'B' would be the part 'A' is being connected to.)</p> <p>User must enter this Id or the Customer_Id in the field in order for the Connection to be processed correctly.</p> <p>Both fields cannot be left blank.</p>
Owner_Navion_ID		ParentId Or ObjID	<p>Enter the Navion_Id number of the part that owns the connection.</p> <p>(For example if we want to connect 'A' to 'B', 'A' is the owner of the connection.)</p> <p>User must enter this Id or the Navion_Id in the Owner_Navion_Id field in order for the Connection to be processed correctly.</p> <p>Both fields cannot be left blank.</p>
Owner Customer_Id			<p>Enter the Customer_Id number of the part that owns the connection.</p> <p>(For example if we want to connect 'A' to 'B', 'A' is the owner of the connection.)</p> <p>User must enter this Id or the Navion_Id in the Owner_Navion_Id field in order for the Connection to be processed correctly.</p> <p>Both fields cannot be left blank.</p>
Reference Name			Enter the Navion Connection Name.
Value			Not applicable for this type of transaction.
Data_Type		TypeName	Not applicable for this type of transaction.
Description			Optional Entry field – Type in a description of the part.
Comments			Optional Entry field – type any additional information applicable to the part.

Processed			0 = Not Processed, 1 = Processed
	Model_ID	LineItemId	From the Project Window in nAct, move the mouse pointer over the applicable Part Family Name and the Part Id number is displayed.
	Release		This field is always set to 0.
	Last Modified Date		Refers to the date the batch was created.

Batch Import - Disconnect Transactions

Disconnect (for connections only)- This transaction disconnects the specified connection. (The information should appear exactly the same as the connections, the only difference being the change type.)

- If a record has a change type of Disconnect (5) that is not related to an Add record, then it would be best to give the Navion ID's instead of the Customer_ID's.
- This transaction will appear under the Add grid if it is removing the connection from a part that is being added in the same batch of changes otherwise the transaction will appear under the Change grid.
- Connects/Disconnects and Property modifications can be done in the same batch of changes to the same part.

Batch Import Detail Table	Batch Import Header Table	Model Parts Table	Explanation
Batch_Import_Detail_Id			Unique number identifying the transaction.
Customer_Ref_No	Customer_Ref_No		Unique Identifier for the batch of changes being processed for a particular model.
Change_Type			5 = Disconnect
Navion_ID			<p>Enter the Navion_Id number of the part being disconnected.</p> <p>(For example if we want to disconnect 'A' from 'B', 'B' would be the part 'A' is being disconnected from.)</p> <p>User must enter this Id or the Customer_Id in the field in order for the part to be disconnected correctly.</p>

			Both fields cannot be left blank.
Customer_ID		Customer_Id	<p>Enter the Customer_Id number of the part being disconnected.</p> <p>(For example if we want to disconnect 'A' from 'B', 'B' would be the part 'A' is being disconnected from.)</p> <p>User must enter this Id or the Customer_Id in the field in order for the part to be disconnected correctly.</p> <p>Both fields cannot be left blank.</p>
Owner_Navion_Id		ParentId Or ObjID	<p>Enter the Navion_Id number of the part that owns the connection.</p> <p>(For example if we want to Disconnect 'A' from 'B', 'A' is the owner of the connection.)</p> <p>User must enter this Id or the Navion_Id in the Owner_Navion_Id field in order for the part to be disconnected correctly.</p> <p>Both fields cannot be left blank.</p>
Owner Customer_Id			<p>Enter the Customer_Id number of the part that owns the connection.</p> <p>(For example if we want to connect 'A' to 'B', 'A' is the owner of the connection.)</p> <p>User must enter this Id or the Navion_Id in the Owner_Navion_Id field in order for the part to be disconnected correctly.</p> <p>Both fields cannot be left blank.</p>
Reference Name			<p>Enter the Navion Connection Name.</p>
Value			Not applicable for this type of transaction.
Data_Type		TypeName	Not applicable for this type of transaction.

Description			Optional Entry field – Type in a description of the part.
Comments			Optional Entry field – type any additional information applicable to the part.
Processed			0 = Not Processed, 1 = Processed
	Model_ID	LineItemId	From the Project Window in nAct, move the mouse pointer over the applicable Part Family Name and the Part Id number is displayed.
	Release		This field is always set to 0.
	Last Modified Date		Refers to the date the batch was created.

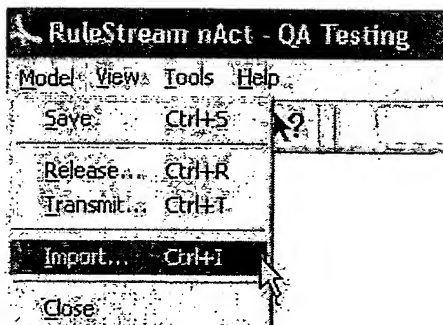
Batch Import - New Model

II. Using the Import Utility with a New Model – Execute the following steps to run the Batch Import Utility for a new model.

Project Window

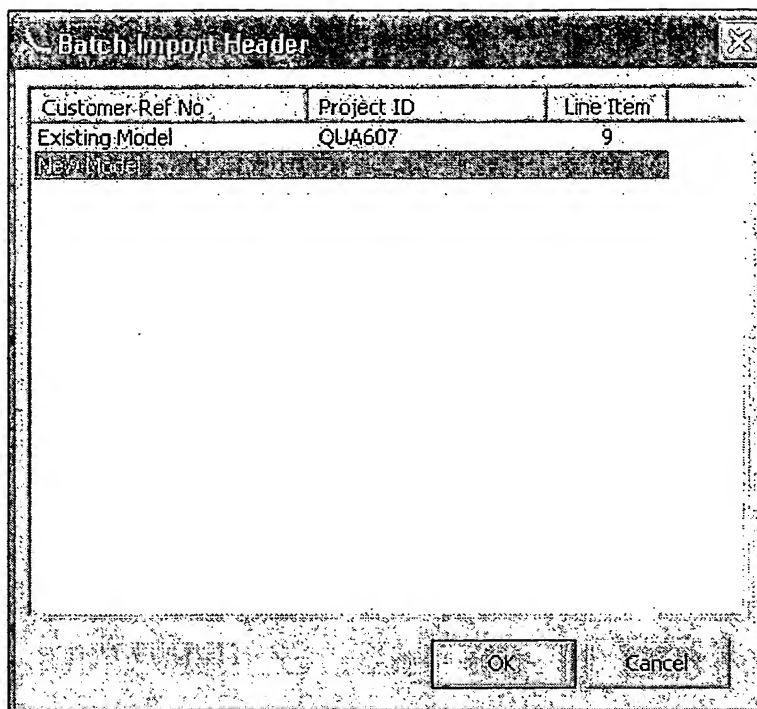
1. Select or Add the applicable Project
2. Select Line Item / New to create a new model.
3. Click on the new model so that it is highlighted.
4. Click on Edit Model – System will navigate to the Designer window.

Designer Window



5. Select Model / Import from the menu bar on the Designer window.

Batch Import Header window -



The image shows a dialog box titled "Batch Import Header". It contains a table with three columns: "Customer Ref No", "Project ID", and "Line Item". The first row of the table has the values "Existing Model", "QUA607", and "9". Below the table, there is a large empty rectangular area. At the bottom of the dialog box, there are two buttons: "OK" and "Cancel".

Customer Ref No	Project ID	Line Item
Existing Model	QUA607	9

6. Select the appropriate Customer_Ref_No by clicking on the box in the Process column.
7. Click on OK

Batch Import Window (Add tab) -

7. Select the appropriate transactions, if applicable by clicking on the box in the Process column or Click on Select All, which will automatically put check marks in all of the boxes in the Process column.
8. Click on Process or another tab if there are other transactions (see Figure 16.0) to be selected and processed. Or Click on the Cancel button to exit the import utility.

Batch Import Window (Change tab) -

9. Select the appropriate transactions, if applicable by clicking on the box in the Process column or Click on Select All, which will automatically put check marks in all of the boxes in the Process column.
10. Click on Process or another tab if there are other transactions (see Figure 17.0) to be selected and processed. Or Click on the Cancel button to exit the import utility.

Batch Import Window (Delete tab) -

11. Select the appropriate transactions, if applicable by clicking on the box in the Process column or Click on Select All, which will automatically put check marks in all of the boxes in the Process column.

12. Click on Process or another tab if there are other transactions to be selected and processed. Or Click on the Cancel button to exit the import utility.

Designer Window (Tree view) –

13. Verify Parts have been added and are displaying the properties, connects and disconnect correctly.

Batch Import - Existing Model

Running the Import Utility against an Existing Model – Execute the following steps to run the Batch Import Utility on an existing model.

Project Window

1. Highlight the line item to be processed if changing an existing model.
2. Click on Edit.

Batch Import Utility Window - The Batch_Import window has three tabs identified as Add, Change, and Delete. The window also contains a Select All, Clear All, Process, and a Cancel button. The information contained in the Description and Comments fields from the Batch_Import_Detail table will also be displayed in this window.

Name Column – The top line displays the information contained in the Value column of the batch import detail table. Any additional lines under the part are displayed as a connection, property, child information.

Value Column – Displays the information contained in the Value column of the batch import detail table.

Process Column – Displays the check box. Determines whether or not the transaction gets processed.'

Add Grid will display parts about to be added in a tree view format sorted by a subpart spec name within a group (Figure 4.0). The tree will also display any of their properties that are being changed, any connects or disconnects being added/removed and any children that are also being added. Only those parts that are at the level zero can be processed, since they will have their parent Navion id, and anything below the root node cannot be processed. The parts at the level zero in the Add grid can be processed in any order. It is assumed that all of the parts in this grid will have a Customer Id.

3. Verify information is displayed correctly in the grid.
4. Select some of the transactions by checking the boxes next to them. –OR- Click the Select All so that all boxes are automatically checked.
5. Click Process to run the Utility for all Selected Items

Note: If the entire batch is to be run together (Adds/Changes/Deletes), the user must go into each tab,

Select All, then click Process.

Change Grid will display parts in the tree view format with all of their properties, connects and disconnects about to be modified. The unit of processing could be any one of the levels in the tree. It is assumed all of the parts in this grid already have a Navion Id assigned (can be found in the Model Parts table).

6. Verify information is displayed correctly in the grid.
7. Select some of the transactions by checking the boxes next to them. –OR- Click the Select All so that all boxes are automatically checked.
8. Click Process to run the Utility for all Selected Items.

Note: If the entire batch is to be run together (Adds/Changes/Deletes), the user must go into each tab, Select All, then click Process.

Delete Grid will be similar to Add Grid in that it will display parts in a tree view format with all of their children. The unit of processing could be any one of the levels in the tree. It is assumed all of the parts in this grid will have Navion Id.

If the user attempts to delete a part, which does not exist in the current model:

- The transaction will appear in the grid.
- Name information will be blank.
- No error will be displayed.

If the user attempts to delete a part at the same time it is being added:

- The part will be displayed under the add tab and under the delete tab
- The Name information will be blank in the grid
- The transaction will not error during processing and will not be displayed in the nAct Model tree.

9. Verify information is displayed correctly in the grid.
10. Select some of the transactions by checking the boxes next to them. –OR- Click the Select All so that all boxes are automatically checked.
11. Click Process to run the Utility for all Selected Items.

Note: If the entire batch is to be run together (Adds/Changes/Deletes), the user must go into each tab,

Select All, then click Process.

Batch Update Error Window – When processing is complete a Batch Update window will be displayed showing the number of errors. Errors are stored in the Event Viewer / Application Log. The user can decide to close out of the model, re-run the process but unselect the invalid transaction from the applicable grid (Add, Change or Delete) and then proceed.

11. Click 'Show Event Log' which brings up the Event Viewer Window to display the errors. – OR - Click Cancel to bypass the Error log and display the Designer Window.

Event Viewer Window

12. Double click on the items to view the specific errors.

Event Properties Window – Displays the details of the error. Various different error messages can be displayed depending on what is actually wrong. It is a good idea to verify the data in the detail table is correct first.

13. Click on OK to continue.

nAct Designer Window

14. Verify information is displayed correctly in the tree and property changes appear correctly.
15. Click Part / Save if everything processed correctly.
16. Click Part / Close to return to the Project window without saving, make any necessary corrections and then try to re-run.

Batch Import Errors

Type topic text here.

Batch Import - Frequently Asked Questions

What happens if I enter bad data into the tables?

To use this utility the customer must correctly load the Batch_Import_Header and

Batch_Import_Detail tables with valid information. If bad data exists in these tables, transactions with errors may be ignored and not get processed at all or the process will display errors in the Error Log after the process is ran.

Can I un-do the changes if I have saved the model?

There is no un-do capability once the model is saved. If the transactions are loaded and not saved, the changes can be un-done by closing the model without saving.

Can I run this utility on an existing model?

This utility can be used to update new and existing models. Updating an existing model implies that the model has been saved prior to the import.

Can the import process be run on multiple models for the same transaction?

Each transaction in the import process is specific to one nAct model (a model is a line item in nAct).

Can I make changes to the nAct model and then run the Import Utility?

When using the Import Utility to keep the nAct model in sync with another application, the user could have made changes to the nAct model causing some of the import to fail, as they are no longer valid (i.e. the user manually deletes a part and the Import Utility attempts to modify that part).

?

Any additions and deletions from subpart collections, and connections will be done in Manual Mode.

The established behavior is as follows: when the subpart is added or removed from the collection, and the subpart collection is in automatic mode, switch it to manual mode. When trying to connect to a part while the connection is in automatic mode, it is switched to manual mode.

When does the Batch Import window get displayed?

The Batch Import window will pop up, when the user opens a model in nAct if there are unprocessed transactions for that model.

Are there other ways to initiate the Import process?

There is an Import menu option that can be selected from the Designer window that brings up the header information about any batches that have not been completely processed (the header table).

When the user picks a batch, the details are displayed. The user has the ability to import any batch of changes into any model. The user should be warned if they are attempting to import a mismatched model_id/release. The transactions should be flagged as processed when they are successfully

imported into a matching model_id/release. If it is for a new model (no existing model_id/release), then once the transactions are processed they should be flagged.

Do I have to process all the transactions displayed in the Batch Import window?

The user has the ability to control, which changes are to be processed by checking the applicable boxes on the tabs. The user is not able to select a change that is dependent on an unselected change.

The Customer_ID and the Owner_Customer_ID must be tracked. This is required for reference to connect a new part and for later use in synchronization.

Can I run the Import Utility without running nAct?

This process does not include the ability to run the Import Utility stand-alone, without nAct running.

?

This process does not include any process that would be required to determine what data needs to be loaded into the model using the Import Utility.

Does this process include loading the tables with the data to be used?

This process does not include loading the tables, which will be used in the Import Utility this can be done manually or by

Create DLL Overview

This process is necessary when running nAct in Compiled Mode.

Note: To create a Compiled DLL you must first Create a VBP Project file from within nAct , then Create a DLL in Visual Basic and then enable nAct to use the Compiled DLL.

Create VBP Project File

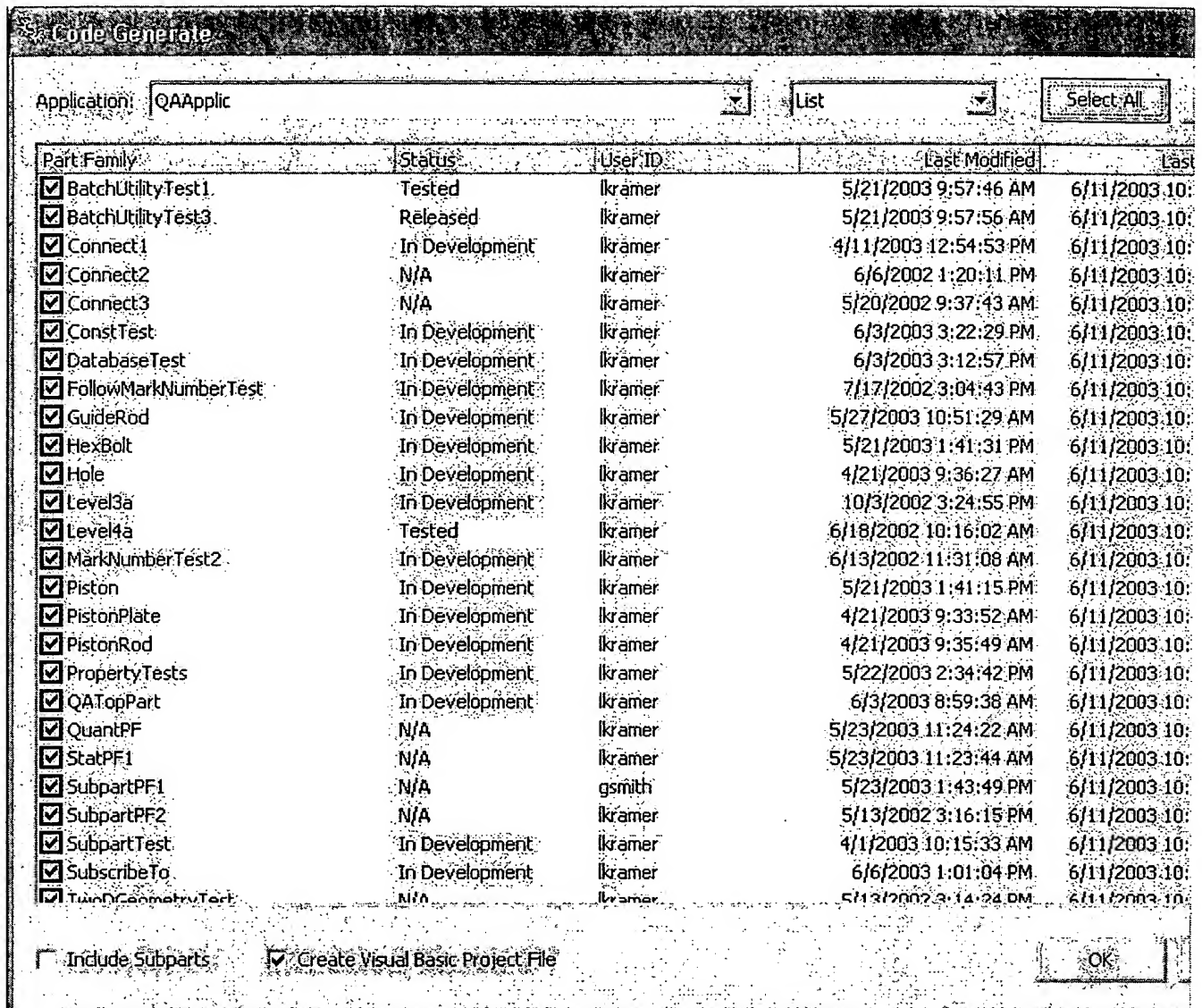
Create DLL in Visual Basic

Set nAct Runtime to Compiled

Create VBP Project File

1. Open nAct.

2. Select Tools / Code Generate from the menu bar.



3. Select the application to be compiled.
4. Click on the "Select All" button so that all part families get selected.
5. Select the "Create Visual Basic Project File" so the it is checked.
6. Click on OK and the code generate process starts. This will create a Visual Basic Project file named "applicationname.VBP" ex. ("QAApplic.VBP") in the RuleStream/nAct/Temp folder.
7. When completed go to Create DLL in Visual Basic.

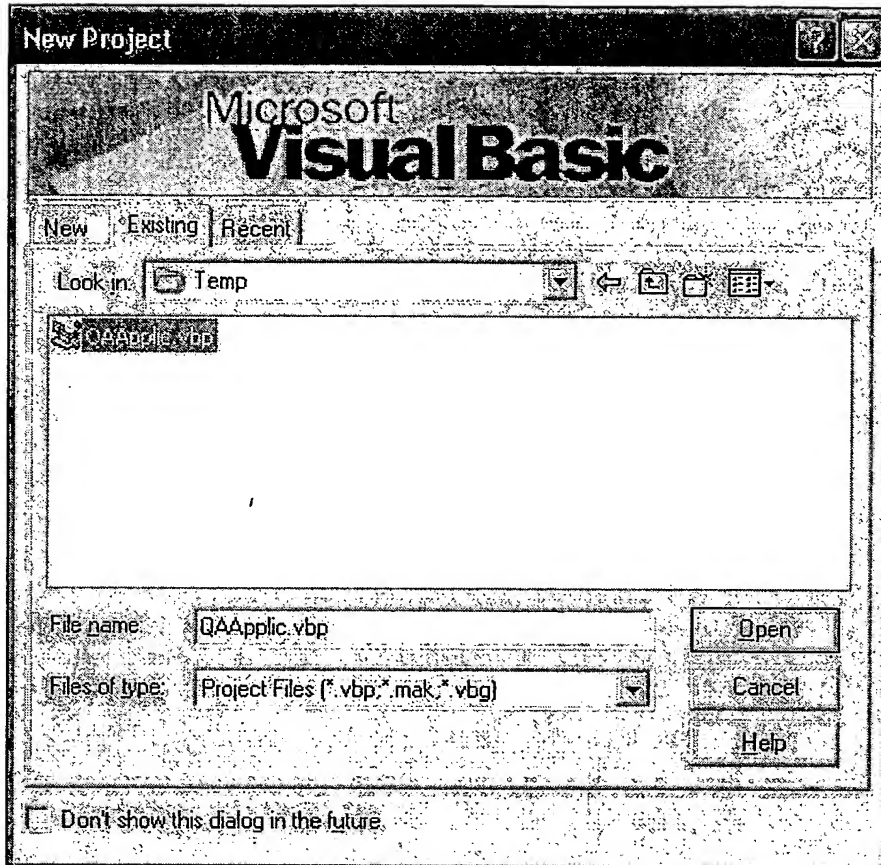
Create DLL in Visual Basic

Open VB

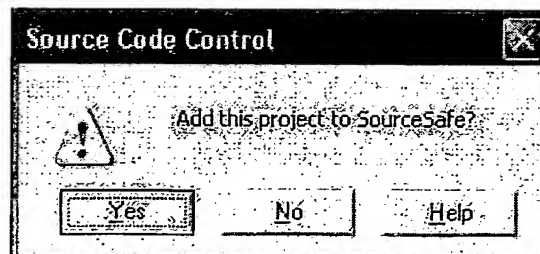
 Microsoft Visual Basic 6.0

1. Select Start/ Programs/ Microsoft Visual Studio/ Microsoft Visual Basic

New Project Window

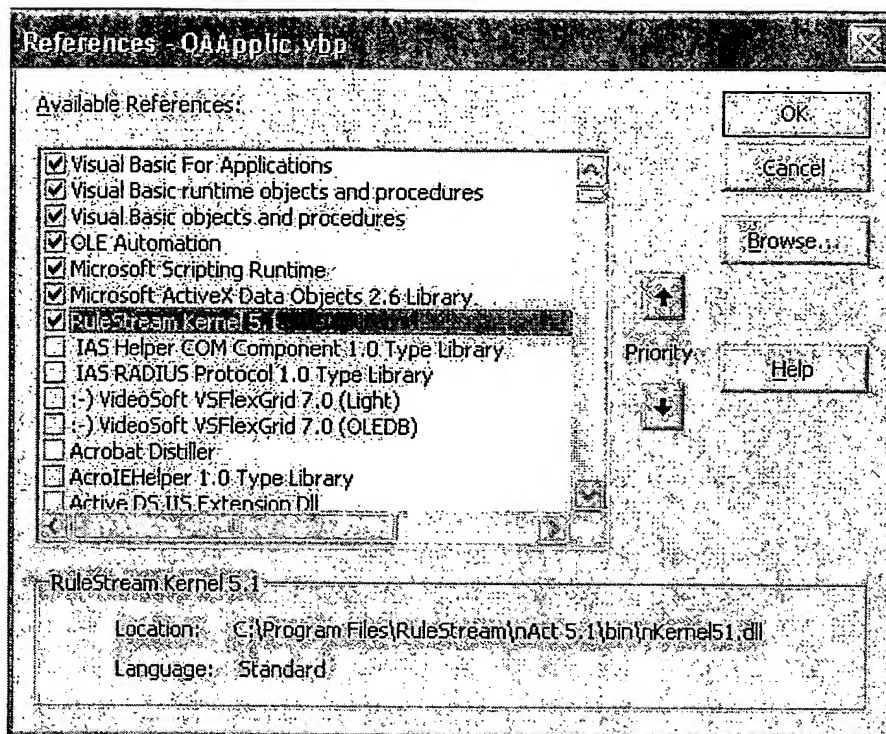



2. Select the Existing Tab
3. Navigate to the installed RuleStream folder (ie. C:\Program Files\RuleStream\nActX.X\Temp\) and select the VBP file generated by the previous step. (ie: QAApplc.VBP)
4. Click on Open and the selected project will open.
 - The following message may appear:



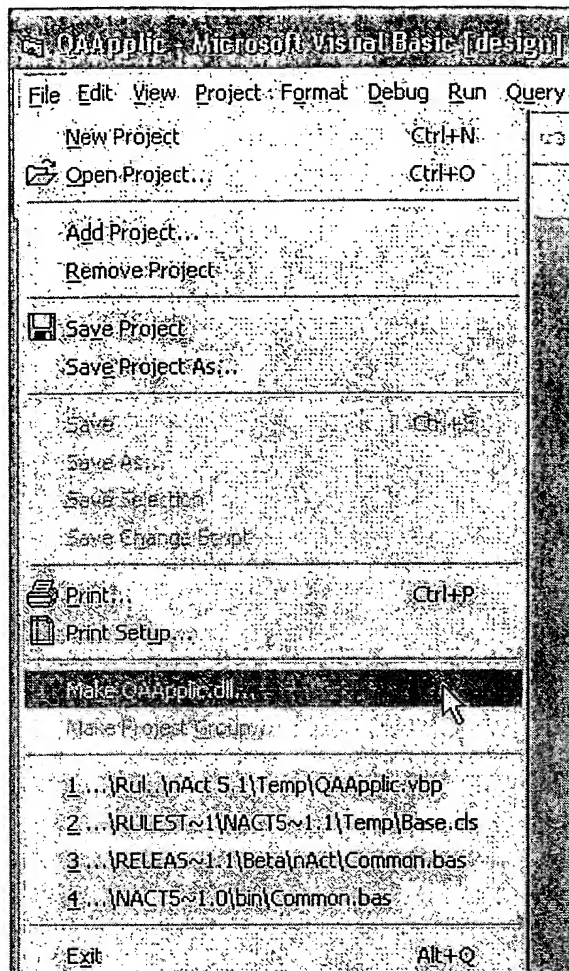
- Click on No.

References Window



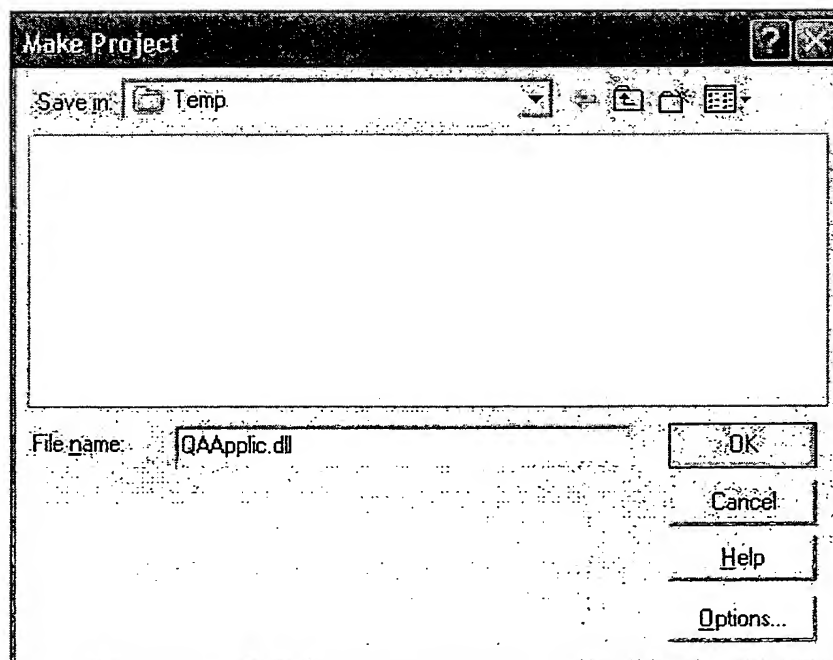
5. Select Project/References from the menu.
6. Verify the above items are selected, if not select them. Make sure the selected Kernel is for the correct release.
7. Click on OK.
8. Click on the Save  icon to save the project.

Make Dll



9. Select File / Make "Project Name".dll from the menu

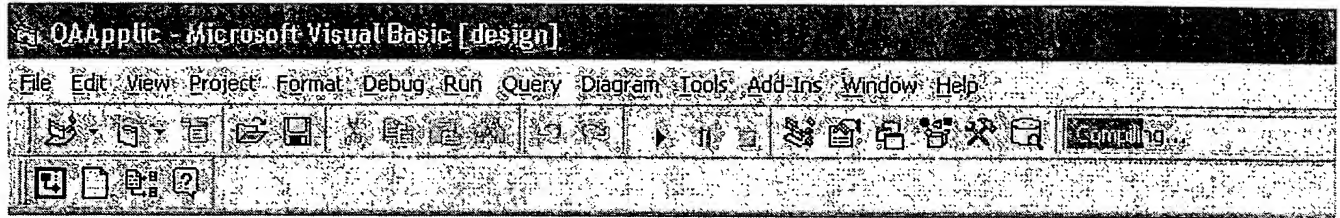
Make Project Window



Note: The file name is created when the VBP project was created during code generation.

10. Click on OK

Compiling Dll

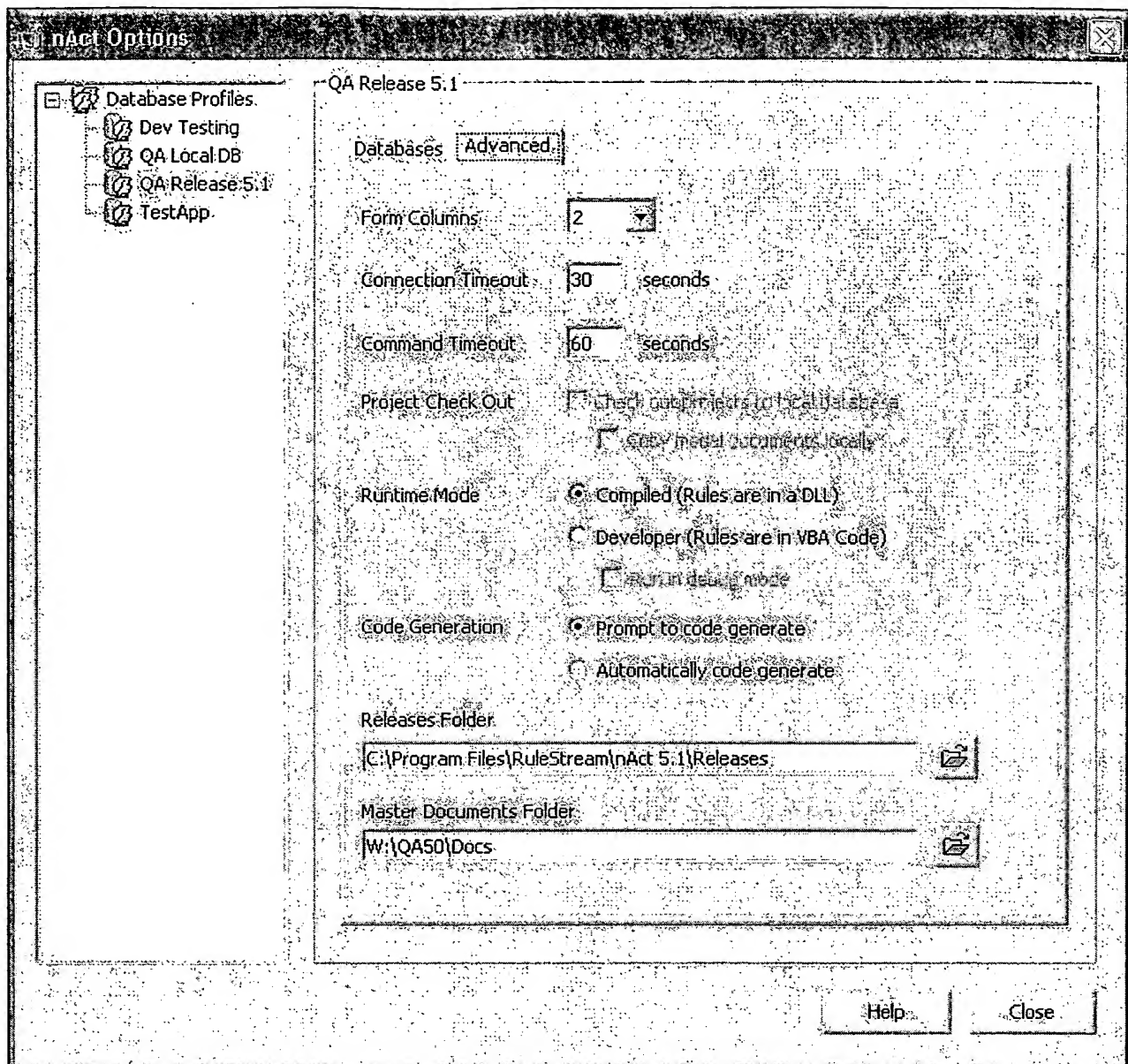


11. When ".dll" has completed compiling, close VB and go to Set nAct Runtime to Compiled

Set nAct Runtime to Compiled

1. Open nAct
2. Click on the Options button on the Login window

nAct Options



3. Select profile that is to be run with a compiled dll.
4. Select the advanced tab
5. Runtime Mode - Click on Compiled (Rules are in a DLL).
6. Close Options window
7. Login to nAct.

Note: To verify application is running in compiled mode:

- Project Window - select Tools from the menu and verify the "Code Generate" option is disabled.

OR

- During Runtime - select View from the menu and verify the "Formulas" option is disabled.

Attachment II

Edit Rules

Edit Rules is the Central location for business rules, specifications, and constraints, which are stored in a database for easy review and retrieval by virtually anyone within a company. Click on any of the following links to view the detailed information regarding features available when editing the rules.

Part Family Overview

- [Part Family Specification](#)

Subpart Overview

- [Subpart Specification](#)
- [Subpart Constraint](#)

Property Overview

- [Property Specification](#)
- [Property Constraint](#)

Connection Overview

- [Connection Specification](#)
- [Connection Constraint](#)

Database Overview

- [Database Specification](#)
- [Database Constraint](#)

Geometry Overview

- [Geometry Specification](#)
- [Geometry Constraint](#)

2D Schematic Overview

- [2DSchematic Specification](#)

Process Overview

- [New Process](#)
- [Delete Process](#)
- [Process Step Wizard](#)

Miscellaneous Features when Editing Rules

- [Menu Bar](#) - Displays a listing of available menu items.
- [Toolbar](#) - Displays a available toolbar items.

- Copy Functionality - Displays a links to the Copy To and Copy From instructions.
 - Copy To - Displays a information and entry instructions for the "Copy To" Functionality.
 - Copy From - Displays a information and entry instructions for the "Copy From" Functionality.
- Edit Rules Error Messages - Displays a listing of error messages that may occur when using nAct.

Part Family Overview

Click on the link below to view the entry instructions and definitions for all of the fields displayed on the Part Family form.

[Part Family Specification](#)

Part Family Entry & Field Definitions

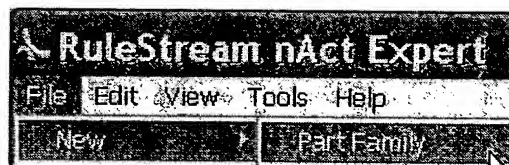
To create a new Part Family:

Select the New Part Family icon from the toolbar.



OR

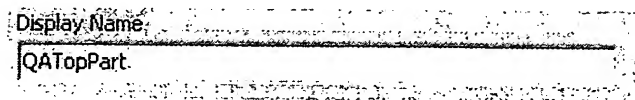
Select File/New/Part Family from the Menu to Bar.



OR

Click on an existing Part Family from one of the lists to modify or delete information.

Display Name - Type in the name to be displayed to the end user at run time in nAct.



System Name (required field) - The Display Name will be loaded automatically into this field and converted to the Visual Basic naming convention. You may change the System Name during the initial Part Family creation. Once the Part Family has been saved it can no longer be changed. The "System Name" must be unique, and reserved words are not allowed.

System Name:
QATopPart

Application (required field) - Identifies the application to which this part family belongs. This field defaults to the current application, but that may be changed.

Top Part - Check this box if the part family will be a top level part family in the selected application.

Application: ☒ Top Part
QA Application

Category - Category is used to group Part Families.

Category:
Top Level

Description - Enter a description of the part family. The description is available for user viewing at run time in nAct.

Description:
Type in a description of the part family here.

Subscribed To - Displays the name of the Part Family from which the information was subscribed from.

Subscribed To:
InheritedGeometry
SubscriptionTest2

Subscribe To

Application: QAApplic

Part Family:

OK Cancel

Knowledge Source - Select the appropriate Knowledge Source from the drop-down list.

Knowledge Source

QA Testing

Status - Status of part family calculated from Properties, Subparts, Connections, etc. If non-manual specs exist without constraints, status is "Unconstrained" otherwise it is the lowest status of all Specs and Constraints.

Status

In Development

Where Used (protected field) - Displays all of the applicable paths of the listed part family, if other than the top-level part family.

Where Used

QA TopPart SubscriptionTest/SubscriptionTest1-TestSubpartSubscription


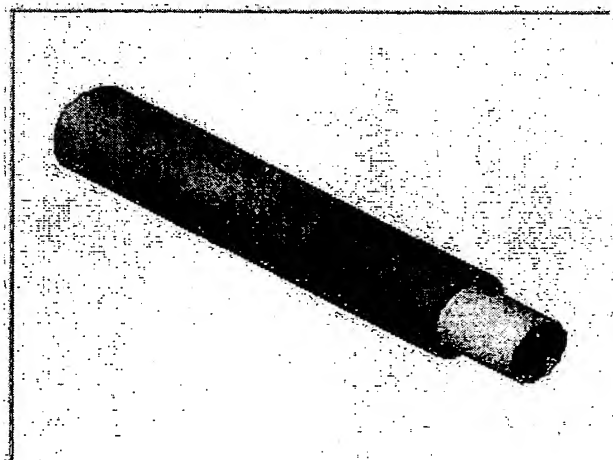
Image Filename - Click on the  to locate and select the image of the part family.

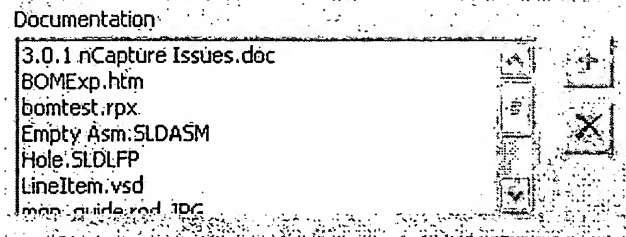
Image Filename



imgp_guide_röd.JPG

(When the part family has been saved the image will appear in the area above the Image Filename field as in the following example:

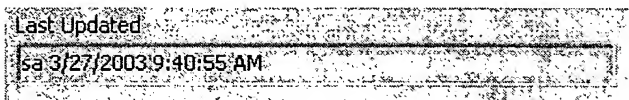


Documentation - List of reference documents for the part family. Double click on the document to open.



-  Click on this icon to add a new document.
-  Highlight a document, then click on this icon to delete the document.

Last Updated (protected field) - Automatically updates after save with User ID, Date and Time of last update to the record.



Subpart Overview

Click on the links below to view the entry instructions and definitions for all of the fields displayed on the Subpart form.

[Subpart Specifications](#)

[Subpart Constraints](#)

Subpart Specification Entry & Field Definitions

To create a new Subpart:

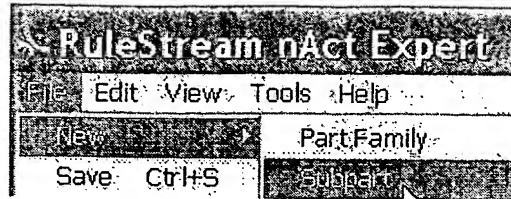
Select the New Subpart icon



from the toolbar.

OR

Select File/New/Subpart from the Menu to Bar.






OR

Click on an existing Subpart from one of the lists to modify or delete information.

Display Name - Type in the name to be displayed to the end user at run time in nAct.

System Name (required field) - The Display Name will be loaded automatically into this field and converted to the Visual Basic naming convention. You may change the System Name during the initial Subpart creation. Once the Subpart has been saved it can no longer be changed. The "System Name" must be unique, and reserved words are not allowed.

Subpart Type (required field) - Select an item from the drop-down list. *Note: Subpart Type cannot be changed once the spec is saved.*

- **Manual** - Parts are added and removed manually through the user interface. The manual subparts are identified by the  symbol that is displayed next to the name of the subpart.
- **Quantity Driven** - Parts returned by the Optimal Part Family formula are created based on the Exists When and Quantity formulas. The Quantity Driven subparts are identified by the  symbol that is displayed next to the name of the subpart.
- **Static** - Parts returned by the Optimal Part Family formula are created based on the Exists When. Quantity is static and determined by the Part Names. The Static subparts are identified by the  symbol that is displayed next to the name of the subpart

Category - Category is used to group specs in the user interface. Using more than one category will create another tab in the dynamic user interface.

Category:

Property Tests

Valid Part Families (required field) - Displays the Part Families that can be used to create parts for this subpart. *Note: Subparts must have at least one valid part family.*

Valid Part Families:

- SubpartPF1
- SubpartPF2

Buttons: + (Add), X (Remove)

- Add button - Click on the Add button. The "Valid Part Family" window will be displayed.
 - Select an existing Valid Part Family from the drop down list.

Valid Part Family

☒ Existing part family

Application: QAApplic

Part Family: SubpartPF1

☐ New part family

Display Name:

System Name:

Buttons: OK, Cancel, Help

OR

- Enter a New Valid Part Family in the Display Name and System Name fields.

Valid Part Family

☐ Existing part family

Application: QAApplic

Part Family:

☒ New part family

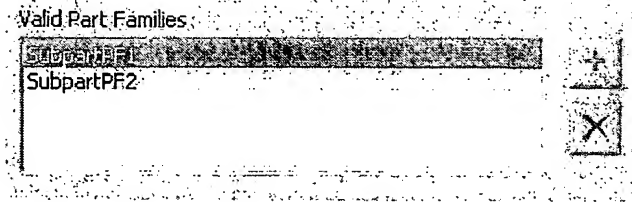
Display Name: NewPartFamily


System Name: NewPartFamily

Buttons: OK, Cancel, Help

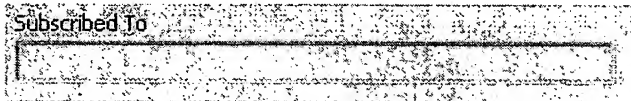
- Click on OK when valid part family has been selected or entered.

- o Verify that all selected Valid Part Families now appear in the Valid Part Families field.

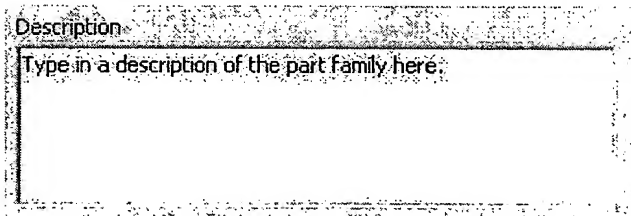


- Delete button - Highlight the Part Family to be removed, then click the delete  button to remove it from the list.

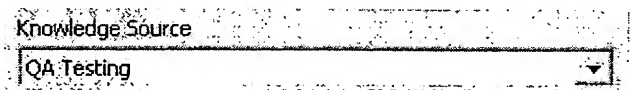
Subscribed To (protected field) - Displays the name of the Part Family from which the information was Subscribed.



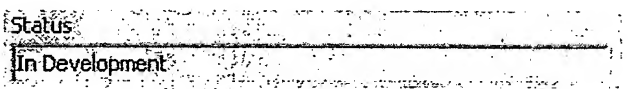
Description - Enter a description of the Subpart Specification. The description is available for the user to view in nAct.



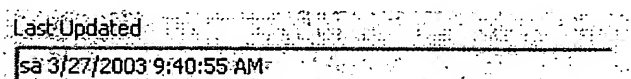
Knowledge Source - Select the appropriate Knowledge Source from the drop-down list.



Status - Select 'Designed' or 'Released' from the drop-down list. Field will default to 'Designed' when saved if nothing is selected.



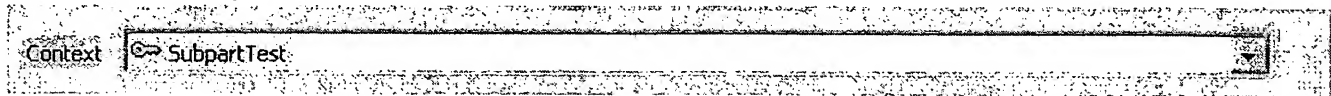
Last Updated (protected field) - Automatically updates after save with User ID, Date and Time.



Click on this [link](#) to view the Subpart Constraint entry information and field definitions.


Subpart Constraint Entry & Field Definitions

Context - Select the applicable constraint from the drop-down list if more than one constraint is available on the Subpart. If only one is available, it will be displayed.



Context: SubpartTest

Optimal Part Family (required field) - Enter a formula that returns a comma-delimited string containing the system names of the part families to create. This formula determines the part family or families to create if the quantity is greater than the number of part family system names. This field can only be used if Quantity Driven or Static has been selected in the Subpart Type field.



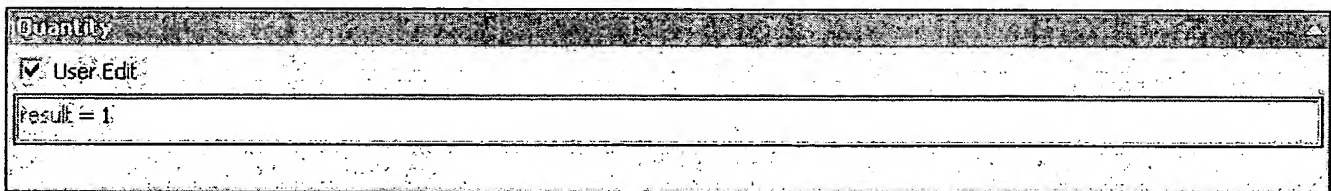
Optimal Part Family

☒ User Edit ☐ Follow Part Number

result = "SubpartPF1"

- *User Edit* - Allows the end user to edit this formula at run time.
- *Follow Part Number* - When the part number property is in user input mode, Follow Part Number will cause the user input values on this spec to be shared among like numbered parts. In other words, this spec value will stay in sync with other parts with the same part number.

Quantity Formula (required field) - Enter a Quantity formula that returns a whole number (integer) that represents the number of parts to create. This field can only be used if Quantity Driven has been selected in the Subpart Type field.



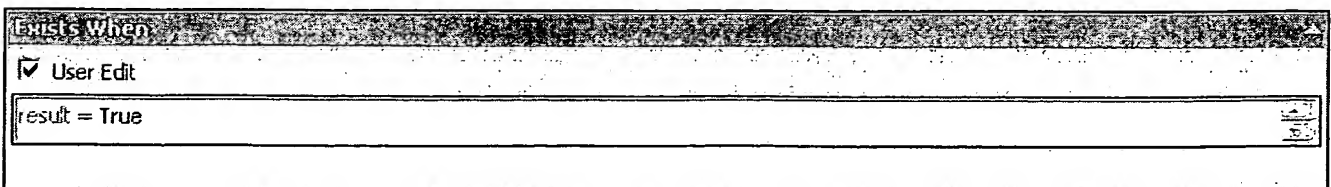
Quantity

☒ User Edit

result = 1

- *User Edit* - Allows the end user to edit this formula at run time.

Exists When Formula (required field) - Enter a Boolean formula (result = True or result= False) to determine whether the subpart exists or not. This field can only be used if Quantity Driven or Static has been selected in the Subpart Type field.



Exists When

☒ User Edit

result = True

- User Edit - Allows the end user to edit this formula at run time.

Part Names (required field) - Enter the part names that will be the run-time or display names for the parts to be created. The quantity is determined by the number of names, which must be unique. This field can only be used when Static is selected in the Subpart Type field.

System Name	Display Name
SubPartPF1	SubPartPF1
SubPartPF2	SubPartPF2

When Changed Formula - Allows the execution of code when the value changes.

msgBox "Do you see this?",36,"Testing When Changed Formula"

Documentation

Description

Knowledge Source

Status: QA Tested

Last Updated: ikramer 1/2/2003 11:24:53 AM

- Description - Enter a description of the Subpart Constraint. This description can be made available for the user to view in nAct.
- Knowledge Source - Select the appropriate Knowledge Source from the drop-down list. Not a required field and will default to blank when saved if nothing is selected.
- Status - Spec statuses are calculated from all constraints. If specs exist without constraints, the status is "Unconstrained" otherwise it is the lowest status of all constraints.
- Last Updated (protected field) - Automatically updates after save with User ID, Date and Time.

Click on this [link](#) to view the Subpart Specification entry information and field definitions.

Property Overview

Click on the links below to view the entry instructions and definitions for all of the fields displayed on the Property form.

[Property Specifications](#)

[Property Constraints](#)

Property Specification Entry & Field Definitions

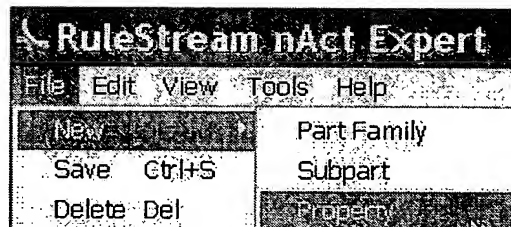
To create a new Property:

Select the New Property icon from the toolbar.



OR

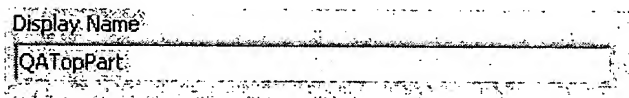
Select File/New/Property from the Menu to Bar.



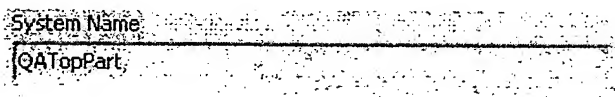
OR

Click on an existing Property from one of the lists to modify or delete information.

Display Name - Type in the name to be displayed to the end user at run time in nAct.



System Name (required) - The "Display Name" will be loaded automatically into this field and converted to the Visual Basic naming convention. The System Name can only be changed during the initial Property creation. Once the Property has been saved it can no longer be changed. The "System Name" must be unique, and reserved words are not allowed.



Property Type (required field):

Property Type

Manual

Manual

Formula Driven

- *Manual* - Value will be provided by user input only; default is determined by datatype.
- *Formula Driven* - Value will be determined by formula.
- *Note: Property Type cannot be changed if constraints exist.*

Data Type (required field) - Select the appropriate data type (e.g. string, number, date) from the drop-down list.

Data Type

String

String

String (Multi-Line)

Long

Double

Date

Boolean

Point2D

Point3D

Units - Enter the unit of measurement applicable for the property (e.g. lbs, mm, sec).

Units

C (celsius degrees)

C (celsius degrees)

cm (centimeters)

day (solar days)

deg (degree)

dm (decimeters)

DM (dekameters)

F (fahrenheit degrees)

ft (feet)

Category (required field) - Select the appropriate Category from the drop-down list. The Category is used to group properties in the user interface.

Category

Property Tests

Subscribed To (protected field) - Displays the name of the Part Family from which the information was subscribed.

Subscribed To

Description - Enter a description of the Property Specification. The description is available for the user to view in nAct.

Description

Type in a description of the part family here.

Knowledge Source - Select the appropriate Knowledge Source from the drop-down list.

Knowledge Source

QA Testing

Status - The status of specs is calculated from all constraints. If non-manual specs exist without constraints, status is "Unconstrained" otherwise it is the lowest status of all constraints.

Status

In Development

Last Updated (protected field) - Automatically updates after save with User ID, Date and Time.

Last Updated

sa 3/27/2003 9:40:55 AM

Click on this [link](#) to view the [Property Constraint](#) entry information and field definitions.

Property Constraint Entry & Field Definitions

Context - Displays the constraint Context (Owner Part Family and Subpart path used). All non local constraints are also referred to as "overrides". An asterisk (*) denotes that a constraint exists for this context; a dagger (†) indicates that a database constraint exists for this spec/context.

Select the applicable constraint from the drop-down list if more than one constraint is available on the property. If only one is available, it will be displayed.

Context: GuiTest

Formula (required field) - Enter the formula used to determine the value for the property. The formula must return the data type of the specification.

Formula

☒ Standard ☐ Auto Revert ☐ Follow Part Number ☐ Initialize Only

result = 1

- **Standard** - The value of a property is derived from that following in order of precedence: Database Constraint (If exists), User Input (If exists), or Formula.
- **Auto Revert** - When the property is in user input mode, and a dependency causes a recalculation, this property will revert back to using the calculated value automatically. This acts similar to the "Revert to Calculated Value" option in run-time.

Note: This overrides the normal precedence, which would require user input values to take precedence over calculated values.

- **Follow Part Number** - When the part number property is in user input mode, Follow Part Number will cause the user input values on this spec to be shared among like numbered parts. In other words, this spec value will stay in sync with other parts with the same part number.
- **Initialize Only** - Overrides the standard dependency mechanism. Normally, when a property references another property in it's formula, the dependant property will be recalculated. If the property is set to "Initialize Only", it will only be calculated once, and will not recalculate if a referenced property value changes.

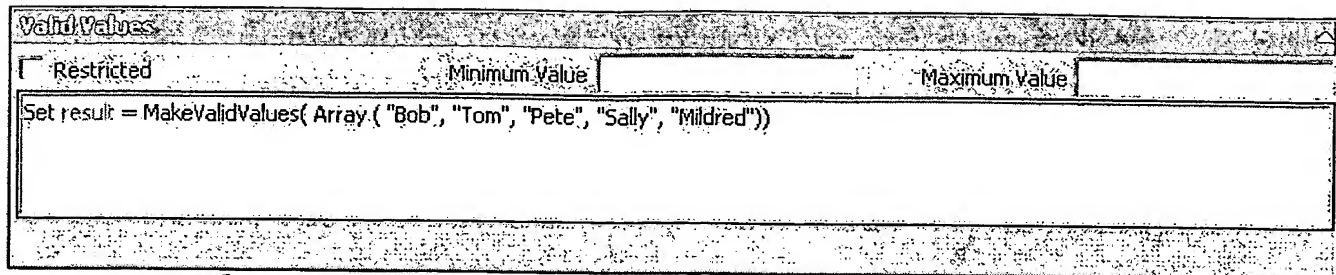
User Interface

User Interface

☒ Visible ☒ Enabled

- **Visible** - Check this box if the Property should be visible to the user at run-time in nAct.
- **Enabled** - Checking this box will make the constraint editable by the user at run-time. If left unchecked, the User Change value can be determined by a formula.
- **User Change Formula** - Enter the applicable formula. User Accessible must be selected to enable this field.

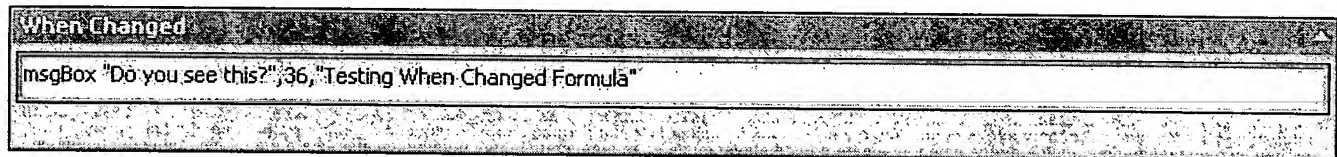
Valid Values - Return a dictionary object of valid values for this property.



The 'Valid Values' dialog box has a title bar 'Valid Values'. It contains a 'Restricted' checkbox which is checked. To its right are two text input fields labeled 'Minimum Value' and 'Maximum Value'. Below these is a large text area containing the formula: `Set result = MakeValidValues(Array ("Bob", "Tom", "Pete", "Sally", "Mildred"))`.

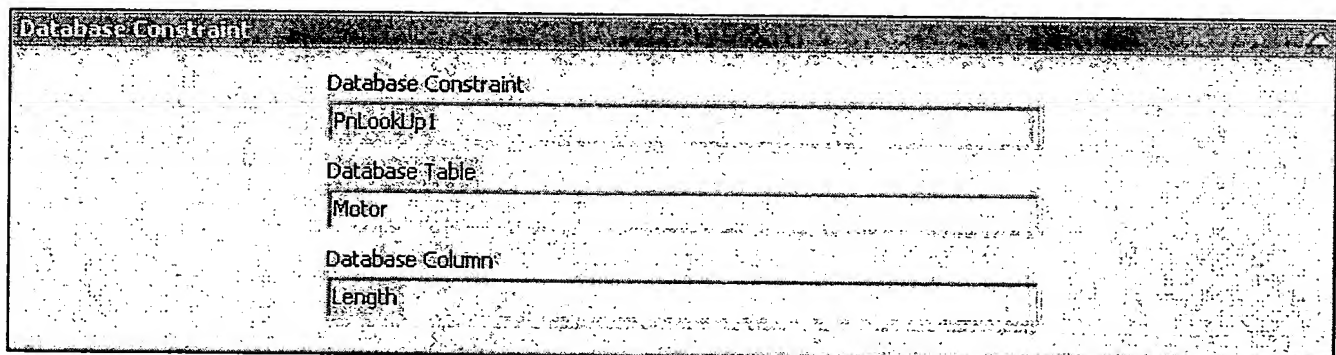
- **Valid Values** - Enter the formula with the list of valid values available for the property.
- **Restricted** - Check this box to indicate that the user is restricted to the list of values in the Valid Values Formula. For example, restricted values will be presented in a non user editable drop-down list, whereas a non-restricted list would allow the user to type a value that is not listed.
- **Minimum Value** - Enter the numeric minimum value. This is used in nAct to evaluate the 'Out of Range' attribute on the property object.
- **Maximum Value** - Enter the numeric maximum value. This is used in nAct to evaluate the 'Out of Range' attribute on the property object.

When Changed Formula - Allows the execution of code when the value changes.



The 'When Changed' dialog box has a title bar 'When Changed'. It contains a single text input field with the formula: `msgBox "Do you see this?";36,"Testing When Changed Formula"`.

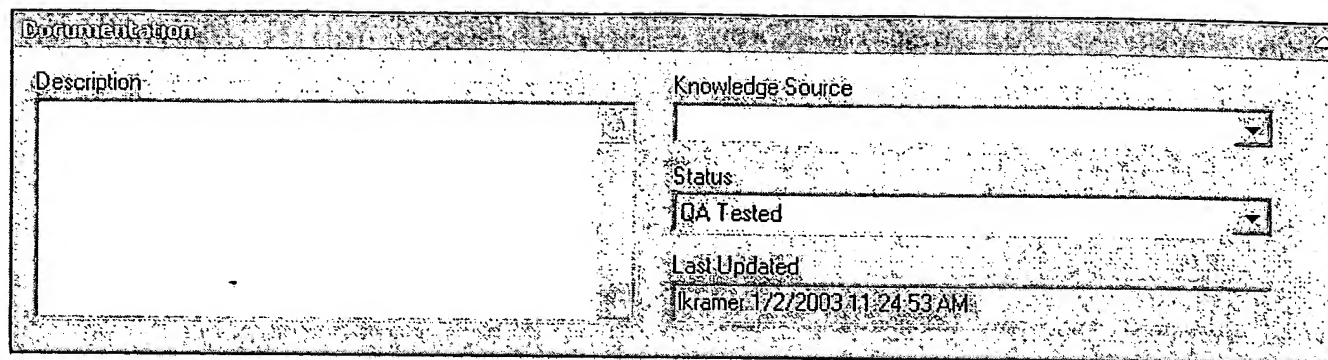
Database Constraint - Protected fields. Display information if property is used in a Database Constraint.



The 'Database Constraint' dialog box has a title bar 'Database Constraint'. It contains three text input fields arranged vertically: 'Database Constraint' with the value 'PnLookUp1', 'Database Table' with the value 'Motor', and 'Database Column' with the value 'Length'.

- **Database Constraint** - If the current part family has a database constraint that defines a value for this property and the context of this constraint, it is displayed here.
- **Database Table** - The table from which the Database Constraint will receive the value for this property.
- **Database Column** - The column in the table above from which the Database Constraint will receive the value for this property.

Documentation



The screenshot shows a window titled "Documentation". It contains four fields:

- Description:** A large text area on the left.
- Knowledge Source:** A drop-down menu on the right.
- Status:** A drop-down menu on the right, currently showing "QA Tested".
- Last Updated:** A text field on the right, showing "lkramer.1/2/2003.11:24:53 AM".

- Description - Enter a description of the Property Constraint. The description can be available for the user to view in nAct.
- Knowledge Source - Select the appropriate Knowledge Source from the drop-down list. Not a required field and will default to blank when saved if nothing is selected.
- Status - Select 'Designed' or 'Released' from the drop-down list. Field will default to 'Designed' when saved if nothing is selected.
- Last Updated (protected field) - Automatically updates after save with User ID, Date and Time of last update to the record.

Click on this [link](#) to view the Property Specification entry information and field definitions.

Connection Overview

Click on the links below to view the entry instructions and definitions for all of the fields displayed on the Connection form.

[Connection Specifications](#)

[Connection Constraints](#)

Connection Specification Entry & Field Definitions

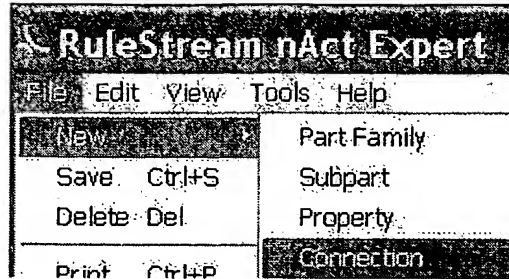
To create a new Connection:

Select the New Connection icon from the toolbar.



OR

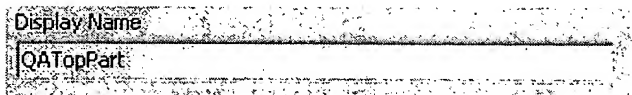
Select File/New/Connection from the Menu to Bar.



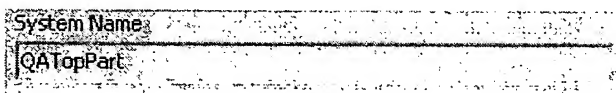
OR

Click on an existing Connection from one of the lists to modify or delete information.

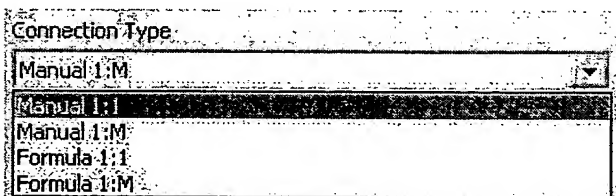
Display Name - Type in the name to be displayed to the end user at run time in nAct.



System Name (required field) - The Display Name will be loaded automatically into this field and converted to the Visual Basic naming convention. You may change the System Name during the initial Connection creation. Once the Connection has been saved it can no longer be changed. The "System Name" must be unique, and reserved words are not allowed



Connection Type - Select the applicable item from the drop-down list.

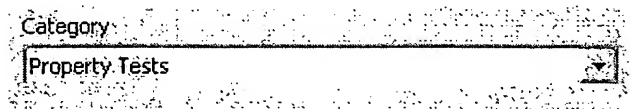


- *Manual 1:1* - A single part (*One to One*) can be connected manually through the user interface.
- *Manual 1:M* - Multiple parts (*One to Many*) can be connected manually through the user interface.
- *Formula 1:1* - A single part (*One to One*) can be connected and disconnected via formula or user interface.
- *Formula 1:M* - Multiple parts (*One to Many*) can be connected and disconnected via formula or user interface.

Note: Connection Type cannot be changed if constraints exist.


Category - Category is used to group connections in the user interface. Using more than one category

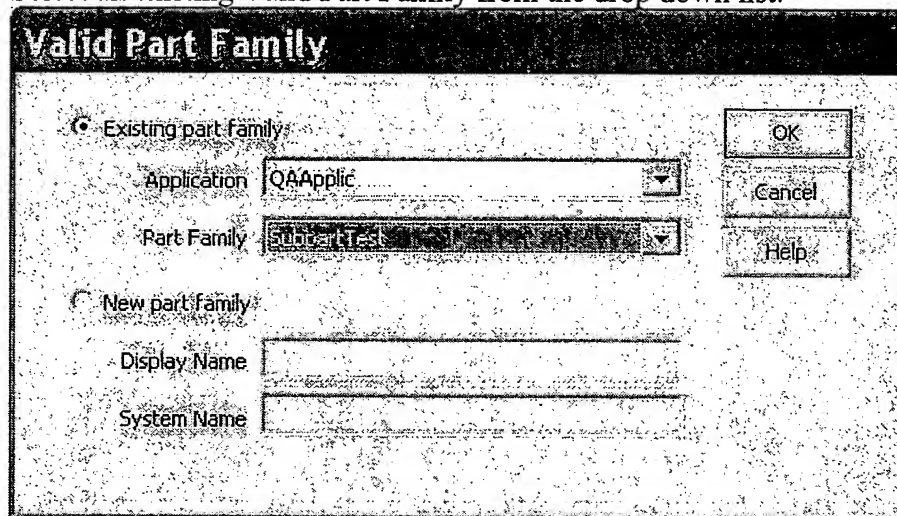
will create another tab in the dynamic user interface.



Category
Property Tests

Valid Part Families (required field)- Displays the Part Families that can be created by this connection. Connections must have at least one valid part family.

- Add button - Click on the Add  button. The "Valid Part Family" window will be displayed.
 - Select an existing Valid Part Family from the drop down list.



Valid Part Family

☒ Existing part family

Application: QAApplic

Part Family: SubpartTest

☐ New part family

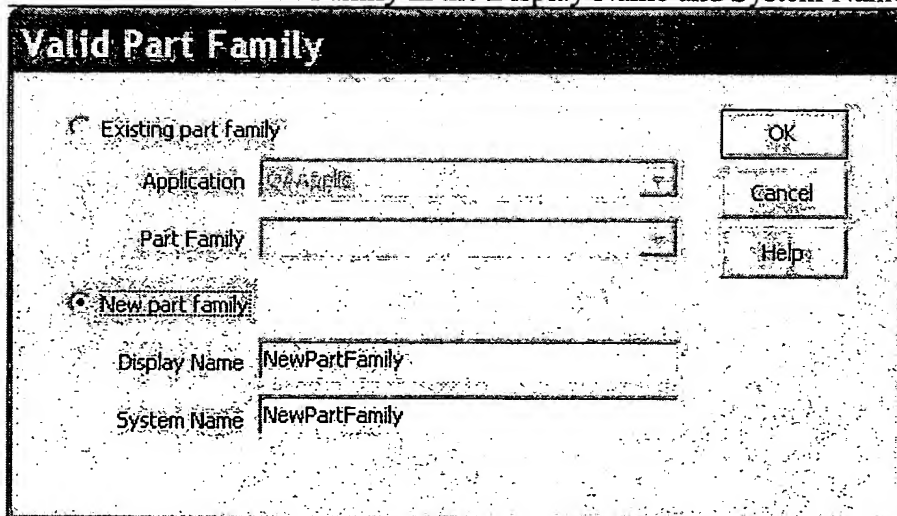
Display Name:

System Name:

OK, Cancel, Help

OR

- Enter a New Valid Part Family in the Display Name and System Name fields.



Valid Part Family

☐ Existing part family

Application: QAApplic

Part Family:

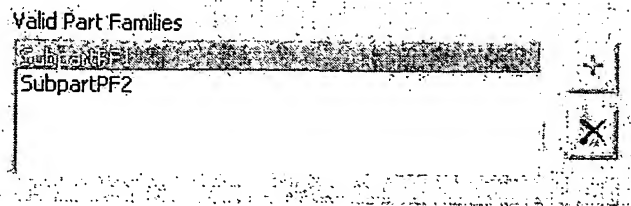
☒ New part family


Display Name: NewPartFamily

System Name: NewPartFamily

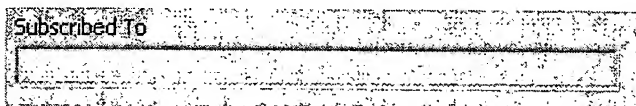
OK, Cancel, Help

- Click on OK when valid part family has been selected or entered.
- Verify that all selected Valid Part Families now appear in the Valid Part Families field.

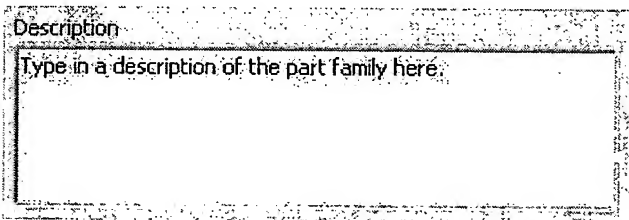
A dialog box titled "Valid Part Families". It contains a list with two entries: "SubpartPF1" and "SubpartPF2". To the right of the list are two buttons: a "+" button at the top and a "-" button at the bottom.

- Delete button - Highlight the Part Family to be removed, then click the delete  button to remove it from the list.

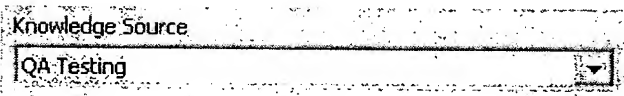
Subscribed To (protected field) - Displays the name of the Part Family from which the information was Subscribed.

A text input field with the label "Subscribed To" above it. The field is currently empty.

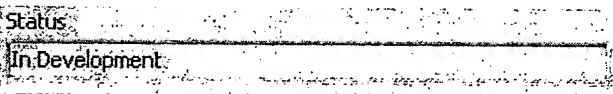
Description - Enter a description of the Connection Specification. The description is available to the user in nAct.

A text input field with the label "Description" above it. Inside the field, the text "Type in a description of the part family here" is visible.

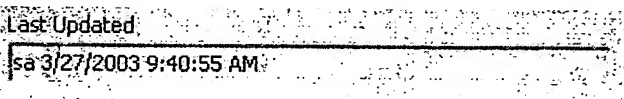
Knowledge Source - Select the appropriate Knowledge Source from the drop-down list.

A dropdown menu with the label "Knowledge Source" above it. The selected option is "QA-Testing".

Status - Specs statuses are calculated from all constraints. If specs exist without constraints, the status is "Unconstrained" otherwise it is the lowest status of all constraints.

A dropdown menu with the label "Status" above it. The selected option is "In-Development".

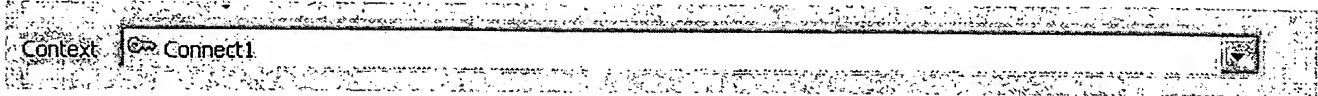
Last Updated (protected field) - Automatically updates after save with User ID, Date and Time.

A text input field with the label "Last Updated" above it. The field contains the text "sa 3/27/2003 9:40:55 AM".

Click on this [link to view the Connection Constraint entry information and field definitions](#).

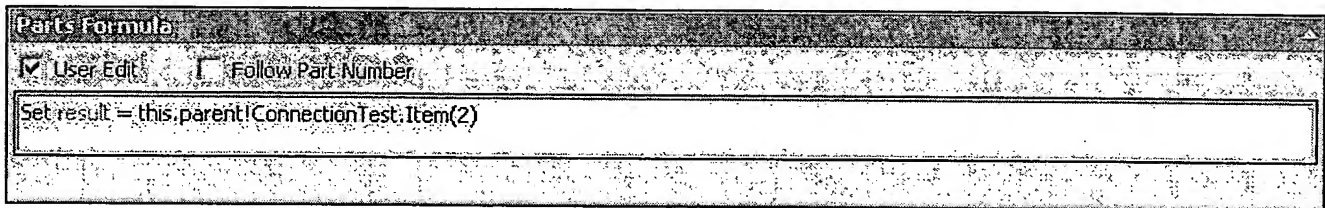
Connection Constraint Entry & Field Definitions

Context - Select the applicable constraint from the drop-down list if more than one constraint is available on the Connection. If only one is available it will be displayed.



Context: Connect1

Parts Formula (required field) - Enter a formula that will return a part or collection of parts are connected to this part family.

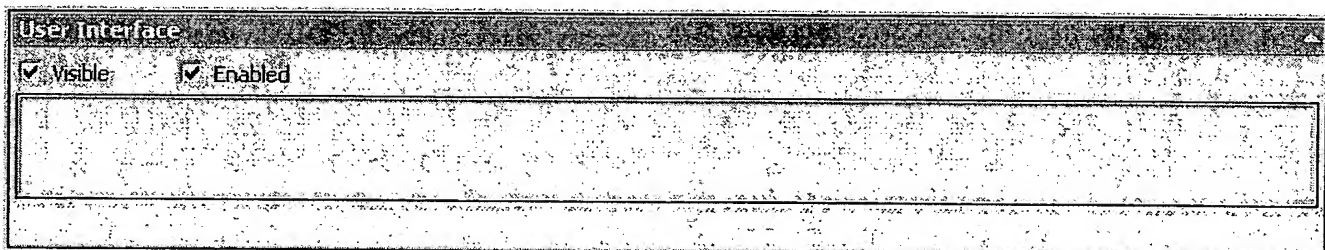


Parts Formula

☒ User Edit ☐ Follow Part Number

Set result = this.parent.ConnectionTest.Item(2)

User Interface

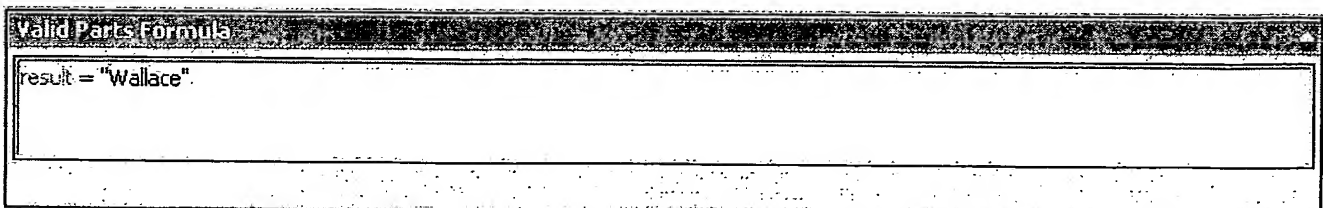


User Interface

☒ Visible ☒ Enabled

- **Visible** - Click on this box if the Connection should be visible to user at run- time in nAct.
- **Enabled** - Allows the end user to edit this constraint at run time. If set to False, the User Change value can be determined by a formula. The default is False.
- **User Change Formula** - Enter an appropriate formula. User Accessible must be selected to enable this field.

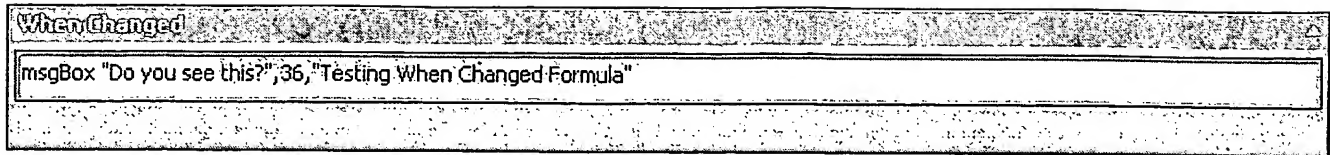
Valid Parts Formula - Enter a formula to return a collection of valid parts for this connection.



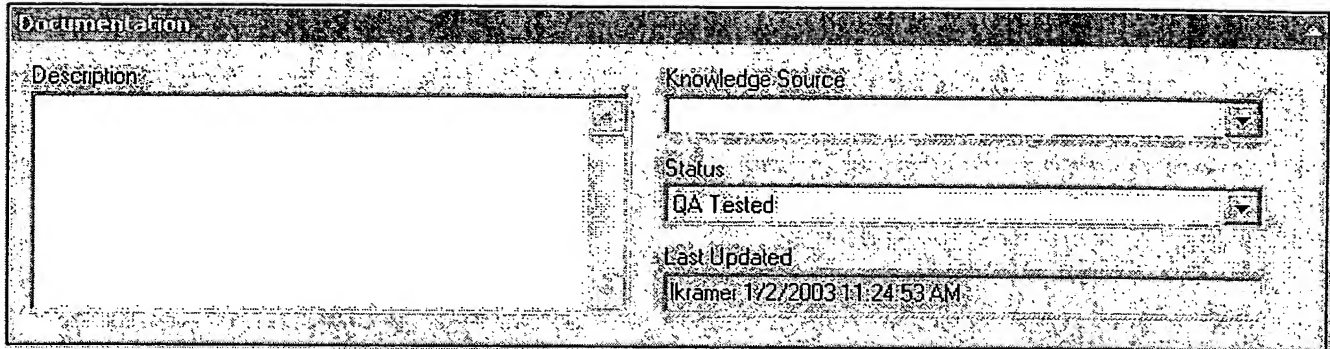
Valid Parts Formula

result = "Wallace".

When Changed Formula - Allows the execution of code when the value changes.



Documentation



- Description - Enter a description of the Connection Constraint. The description can be made available for the user to view in nAct.
- Knowledge Source - Select the appropriate Knowledge Source from the drop-down list. Not a required field and will default to blank when saved if nothing is selected.
- Status - Specs statuses are calculated from all constraints. If specs exist without constraints, status is "Unconstrained" otherwise it is the lowest status of all constraints.
- Last Updated - Protected field. Automatically updates after save with User ID, Date and Time.

Click on this [link to view the Connection Specification entry information and field definitions](#).

Database Overview

Click on the links below to view the entry instructions and definitions for all of the fields displayed on the Database form.

[Database Specification](#)

[Database Constraint](#)

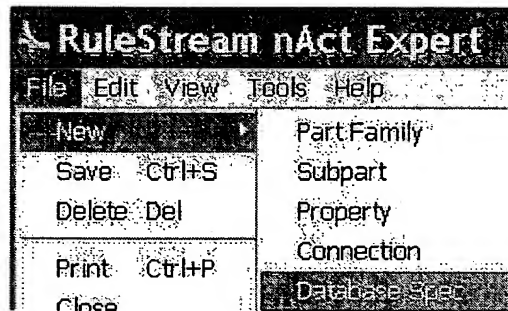
Database Specification Entry & Field Definitions

To create a new Database Spec:

Select the New Database Spec icon from the toolbar.

OR

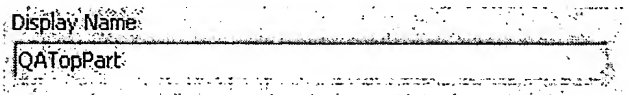
Select File/New/Database Spec from the Menu to Bar.



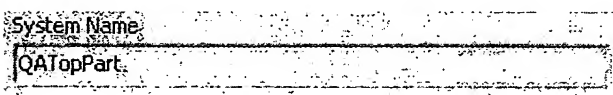
OR

Click on an existing Database Spec from one of the lists to modify or delete information.

Display Name - Type in the name to be displayed to the end user at run time in nAct.



System Name (required field) - The Pretty Name will be loaded automatically into this field and converted to the Visual Basic naming convention. You may change the System Name during the initial Database Spec creation. Once the Database Spec has been saved it can no longer be changed. The "System Name" must be unique, and reserved words are not allowed.



Category - Category is used to group these in the user interface. Using more than one category will create another tab in the dynamic user interface.



Subscribed To - Source constraint for values. Note: Updates from source will be cascaded to the current constraint. Updating the current constraint directly will permanently break the link to the source.

A screenshot of a web form showing a text input field labeled "Subscribed To". The field is empty and has a thin border.

Status - Specs statuses are calculated from all constraints. If specs exist without constraints, the status is "Unconstrained" otherwise it is the lowest status of all constraints.

A screenshot of a web form showing a dropdown menu labeled "Status". The menu is open, showing the option "In Development" selected.

Last Updated (protected field) - Automatically updates after save with User ID, Date and Time.

A screenshot of a web form showing a text input field labeled "Last Updated". The field contains the text "sa 3/27/2003 9:40:55 AM".

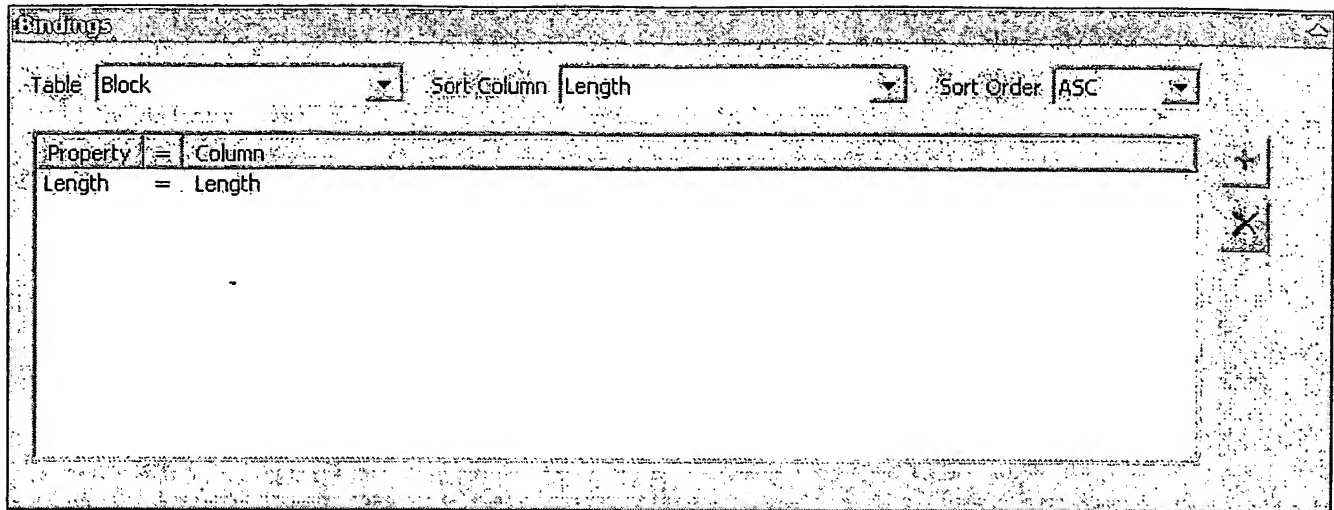
Click on this [link](#) to view the Database Constraint entry information and field definitions.


Database Constraint Entry & Field Definitions

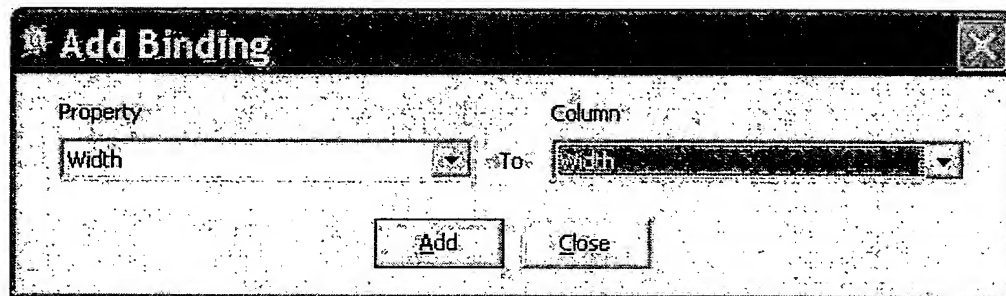
Context - Displays the context in which this database constraint applies.


A screenshot of a web form showing a dropdown menu labeled "Context". The menu is open, showing the option "DatabaseTest" selected.

Bindings (required entry) - Used to specify the columns from which each of the properties in this context derives its values. Only one binding per context can occur. In the local context all properties are available, but only properties that are common are available for overrides.



- Table (required field) - Select the table from the drop-down list that is the table from which the database constraint will receive its values.
- Sort Column - Select the column that will be used to sort the results. This is primarily used to set the optimal values if more than one row is returned in the result set.
- Sort Order - Select the order in which to sort the results (ascending or descending).
 - Add Binding - Click on the **add**  button to add the binding information to the window.
 1. Property - Select a property from the drop-down list.
 2. Column - Select a column from the drop-down list.






- Delete Binding - Highlight the Binding to be removed, then click the **delete**  button to remove it.

Criteria - Used to specify the criteria by which rows are selected from the table. Only criteria that reference properties within that context can be created.

The screenshot shows a dialog box titled "Criteria". Inside, there is a list of criteria with the following text:

```
WHERE [MaxTorque] = this!Torque
AND [FSS] = this!FrequentStartStop
AND [Frequency] = this.parent!Frequency
```

On the right side of the dialog, there are five buttons: a plus sign (+), a pencil (edit), a cross (delete), a pair of parentheses (group), and a pair of parentheses with a slash (ungroup).

- **Add Criteria** - Click on the **add**  button to add the Criteria information to the window.
- **Edit Criteria** - Click on the **edit**  button to edit the existing Criteria information.
- **Delete Criteria** - Highlight the Criteria to be removed, then click the **delete**  button to remove it.
- **Group/Ungroup** - Used to group rows of the criteria within parentheses.
 - And/Or - This field is protected until the first line of criteria has been added.
 - Column - Select a column from the drop-down list.
 - Operator - Select the operator from the drop-down list.
 - Property - Select a property from the drop-down list.

The screenshot shows a dialog box titled "Database Criteria". It contains the following fields and controls:

- And/Or**: A button with a plus sign.
- Column**: A dropdown menu with "Length" selected.
- Operator**: A dropdown menu with "=" selected.
- Value**: A text field containing "length".
- OK** and **Cancel** buttons at the bottom.

Documentation

The screenshot shows a dialog box titled "Documentation". It contains the following fields and controls:

- Description**: A large text area for entering a description.
- Knowledge Source**: A dropdown menu.
- Status**: A dropdown menu with "QA Tested" selected.
- Last Updated**: A text field containing "Ikramer 1/2/2003 11:24:53 AM".

- **Description** - Enter a description of the Database Constraint. This description can be made available for the user to view in nAct.

- Knowledge Source - Select the appropriate Knowledge Source from the drop-down list. Not a required field and will default to blank when saved if nothing is selected.
-
- Status - Select 'Designed' or 'Released' from the drop-down list. This field will default to 'Designed' when saved if nothing is selected.
- Last Updated (protected field) - Automatically updates after save with User ID, Date and Time.

Click on this [link to view the Database Specification](#) entry information and field definitions.

Geometry Overview

Click on the links below to view the entry instructions and definitions for all of the fields displayed on the Geometry form.

[Geometry Specification](#)

[Geometry Constraint](#)

[Sketch Patterns](#)

[Derived Patterns](#)

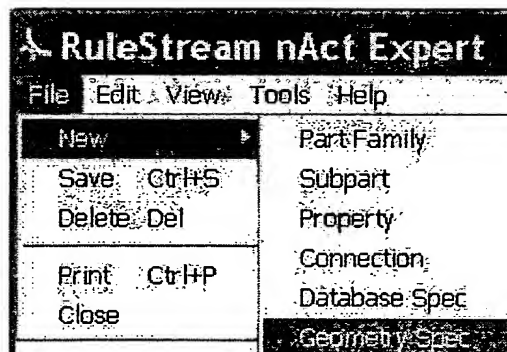
Geometry Specification Entry & Field Definitions

To create a new Geometry Spec:

Select the New Geometry Spec icon from the toolbar.

OR

Select File/New/Geometry Spec from the Menu to Bar.



OR

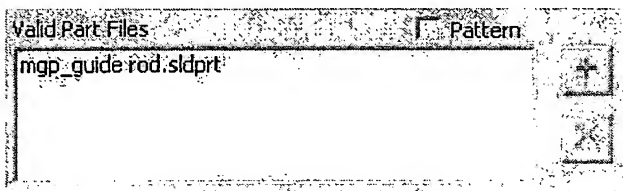
Click on an existing Geometry

Spec from one of the lists to modify or delete information.

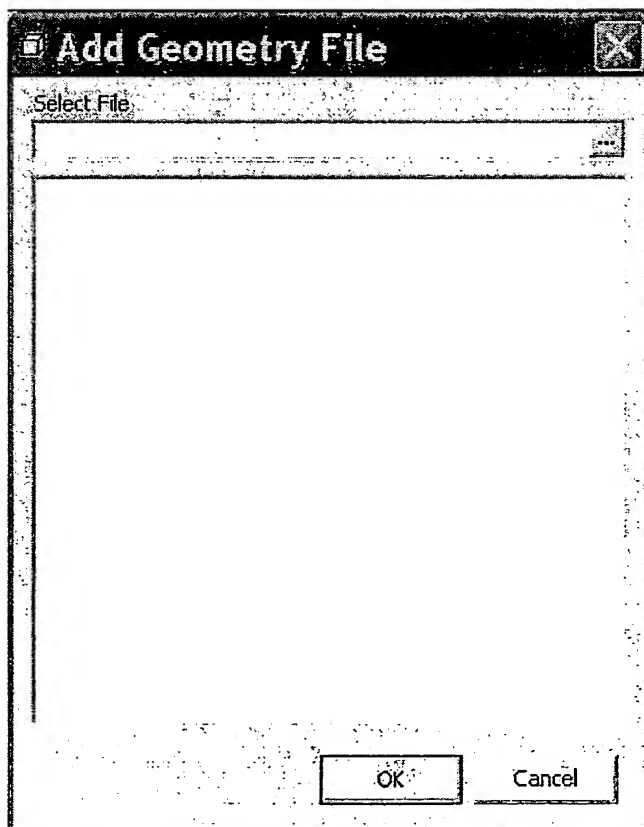
Geometry Type - Select the geometry system (SolidWorks, CATIA, etc.) to which this spec applies. Part Families can be tied to multiple geometry systems. The spec referenced will be determined by the geometry system used at run-time.




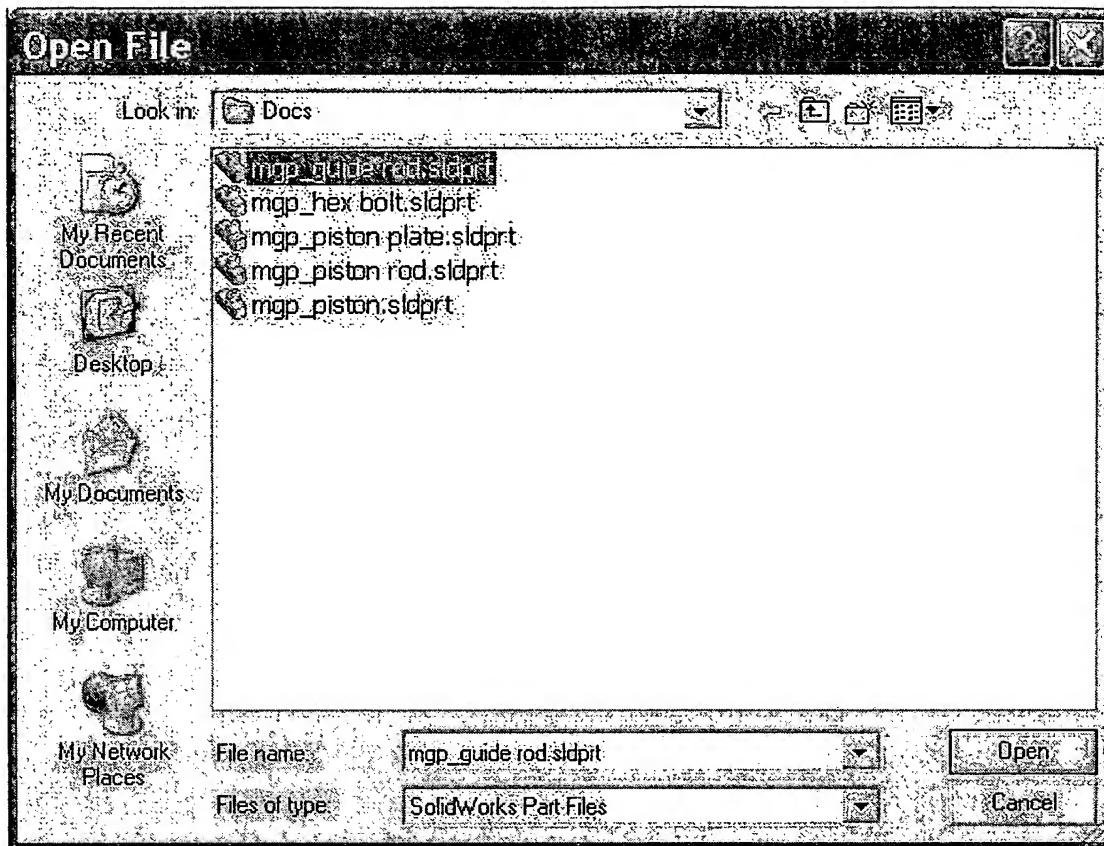
Valid Part Files - List of part files that can represent this part family. When part files are added they will be scanned for features and uploaded to the Docs directory. The user must have the source geometry system (e.g. SolidWorks, CATIA) installed to perform this task.



1. Click on the **Add** button to add a part file. The Geometry files window will open.

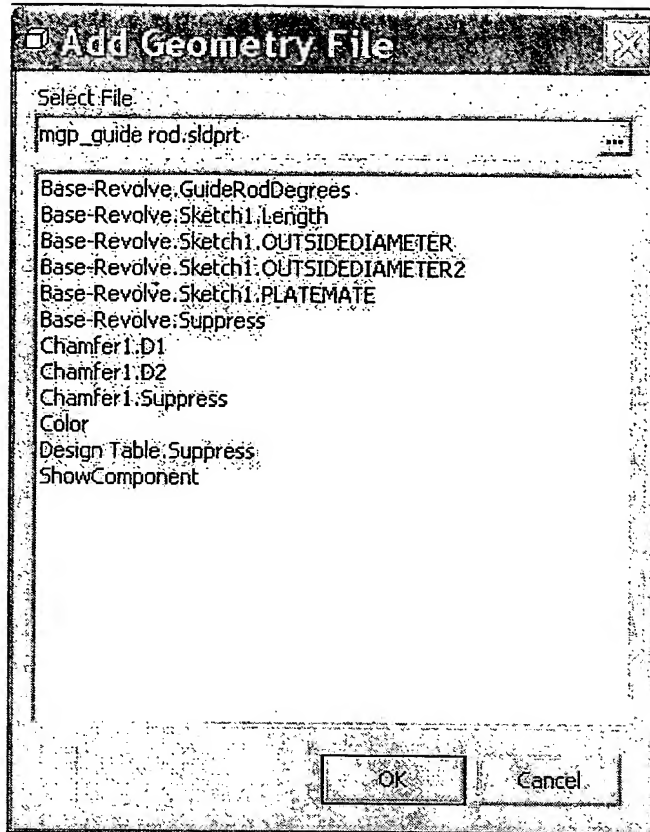


2. Click on the  to locate the file to be added.

Open File window

3. Select the Type of File, then locate and click on the File to be added.
4. Click on the **Open** button and the file will be displayed in the Geometry Files window along with the available features of that file.

Geometry Files window



5. Click on the **OK** button. The file will be uploaded.

Pattern - Indicates that when the subpart contains more than one instance, the 2nd through Nth instance will be created with a pattern. This is used to increase performance within the Geometry application.

Note: When patterning a part the 2nd through Nth instance will not drive geometry, except in the case of a Library Feature Part where the X and Y coordinate properties will determine the position of the instance..

☐ Pattern

Subscribed To - Source spec or constraint for values. Updates from source will be cascaded to the current spec. Updating the current spec directly will permanently break the link to the source.

Subscribed To

Status - Specs statuses are calculated from all constraints. If specs exist without constraints, the status is "Unconstrained" otherwise it is the lowest status of all constraints.


Status

In Development


Last Updated (protected field) - Automatically updates after save with User ID, Date and Time.

Last Updated

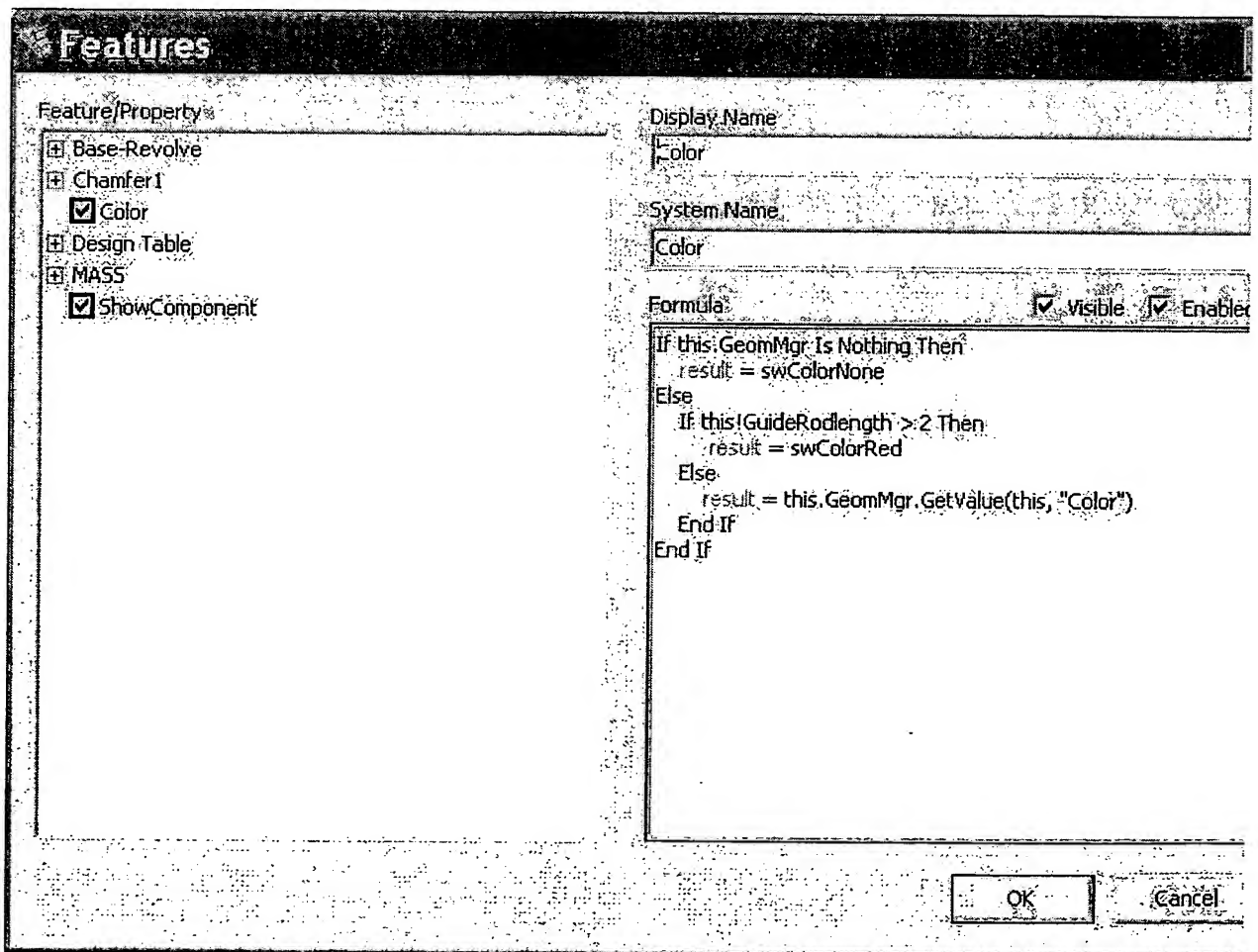
sa 3/27/2003 9:40:55 AM

Properties - List of properties bound to features of the Part Files. The Properties can be created by selecting the Geometry Features Icon .

If like-named properties exist, they will be replaced by the required geometry properties.

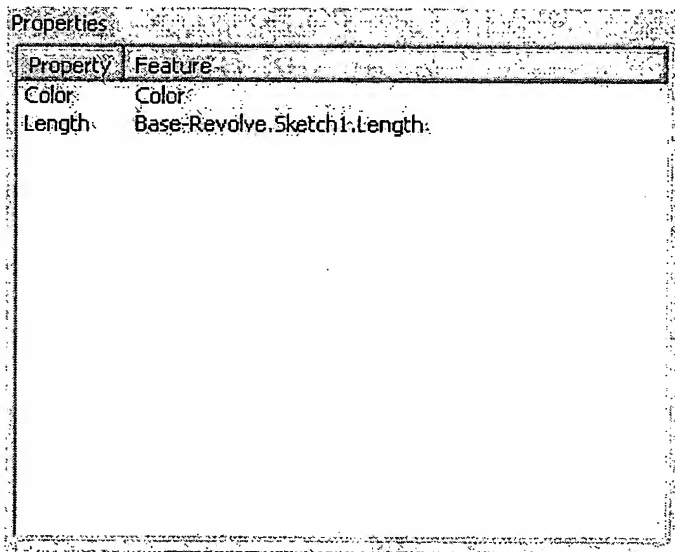
1. Click on **Geometry Features Icon**  on the tool bar to open the Features window.
2. Select the Feature/Property from the tree by clicking on the check box. The Display Name and System Name will be loaded automatically but can be renamed. The default CAD system formula will be automatically loaded. Click on the Enable check box if the property is going to be User Accessible and User Changeable. The Enabled box will be grayed out/protected for certain properties such as the ones listed under MASS.

Features window



- o **Display Name** - Automatically gets populated with the name of the selected Feature, name can be modified.
- o **System Name** - Automatically gets populated with the name of the selected Feature, name can be modified.

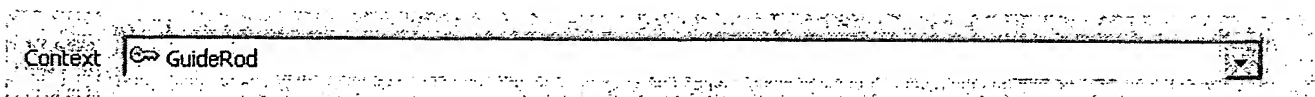
- Visible - Check this box if the Property should be visible to the user at run-time in nAct.
 - Enabled - Checking this box will make the constraint editable by the user at run-time. If left un-checked, the User Change value can be determined by a formula.
 - Formula - A default value from Solidworks will populate this field but the user can also enter a different formula when applicable.
 - Buttons -
 - *OK* - Click on this button to save the selected properties.
 - *Cancel* - Click on this button to close this window without saving any of the properties that were selected.
3. After clicking on OK the selected property (ies) will be displayed in the property window. Double click on the Property and the properties form will be displayed for the selected property.



Click on this [link to view the Geometry Constraint](#) entry information and field definitions.

Geometry Constraint Entry & Field Definitions

Context - Displays the constraint Context (Owner Part Family and Subpart path used). All non-local constraints are also referred to as "overrides". An asterisk (*) denotes that a formula exists for this context.



Optimal Part File - Formula to determine the part file to be used (Automatically defaults to the selected part file.) Must return the part file name (e.g. result = "mypartfile.sldprt").

Optimal Part File

☒ User Edit

result = "mgp_guide.rod.sldprt"

Component Name - Formula to determine the component name used within the geometry application. This will default to the Optimal Part Name without the extension (e.g. result = "mypartfile"). The result must not contain extensions or invalid characters for file names (V.*?<>"|) within the result, otherwise these will be disregarded.

Component Name

☒ User Edit

result = "mgp_guide.rod"

Orientation - Positioning. Derived from a list of functions. Use "Edit", "Copy", "Delete", "Move Up" and "Move Down" to add and arrange functions in the formula. Enter the applicable information in each of the fields and then click on OK. The orientation command will be displayed in the window.

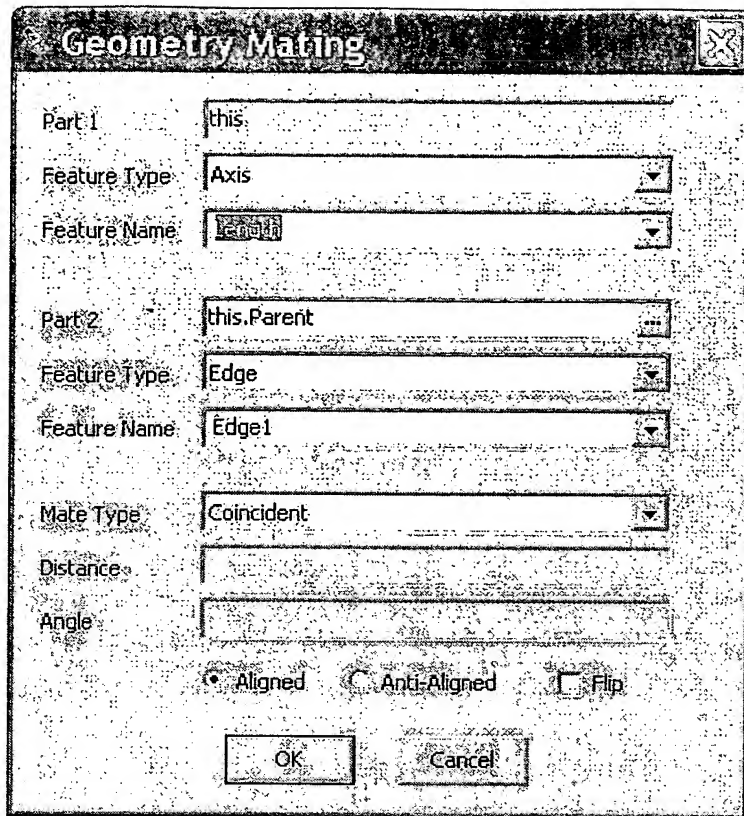
Orientation

☒ User Edit

Position this, this.Length, this.HWidth, this.Chambered

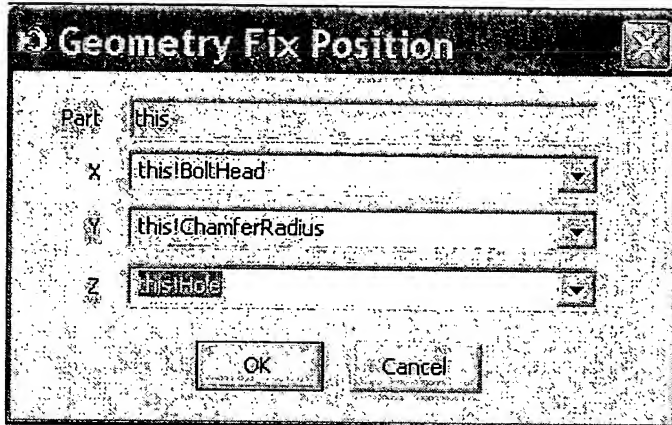
Add Mate Fix Position Reference Edit Copy Delete Move Up Move Down

- **Add Mate** - This will position the geometry shape of the part with respect to another geometry shape.

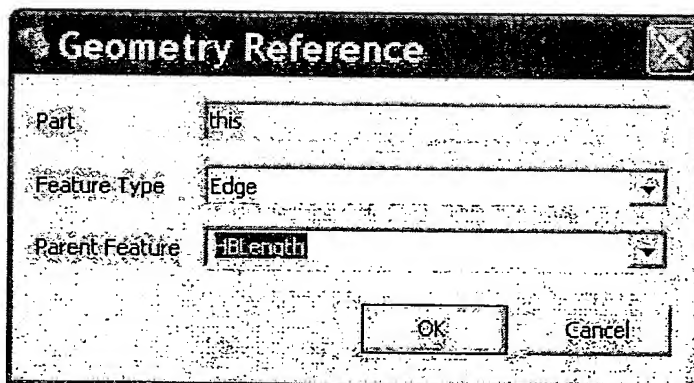


1. *Part 1* - The part that is defining the shape. (this)
2. *Feature Type* - The geometry feature type on Part 1 used for this mate. (axis, edge, face, point, plane)
3. *Feature Name* - The name given to the geometry feature on Part 1 used for this mate (width, length, etc.).
4. *Part 2* - The reference to the model part that is being mated. (this.parent!otherpart.item(1))
5. *Feature Type* - The geometry feature type on Part 2 used for this mate (axis, edge, face, point, plane).
6. *Feature Name* - The name given to the geometry feature on Part 2 used for this mate (width, length, etc.).
7. *Mate Type* - The type of mating between Part 1 and Part 2.
 - Coincident - positions selected faces, edges, and planes (in combination with each other or combined with a single vertex) so they share the same infinite line. Positions two vertices so they touch
 - Concentric - places the selections so that they share the same center point
 - Perpendicular - places the selected items at a 90 degree angle to each other
 - Parallel - places the selected items so they lie in the same direction and remain a constant distance apart from each other
 - Tangent - places the selected items in a tangent mate (at least one selection must be a cylindrical, conical, or spherical face)
 - Distance - places the selected items with the specified distance between them
 - Angle - places the selected items at the specified angle to each other
8. *Distance* - Distance value when the Mate Type selected is Distance.
9. *Angle* - Angle value when the Mate Type selected is Angle.
10. *Alignment* - The alignment controls how the mates will be placed with respect to another.
 - Aligned - The orientation vectors will be in alignment.
 - Anti-Aligned - The orientation vectors will be opposite one another.

- Flip - Flip will reverse the alignment from Aligned to AntiAligned or vice versa.
- 11. Buttons -
 - OK - Save and close.
 - Cancel - Close without saving.
- **Fix Position** - This will place the geometry shape at the point [x,y,z] in Cartesian coordinates.



1. *Part* - The part that is defining the shape (this).
 2. *X* - The x coordinate value.
 3. *Y* - The y coordinate value.
 4. *Z* - The z coordinate value.
 5. Buttons -
 - OK - Save and close.
 - Cancel - Close without saving.
- **References** - References are used to properly define the orientation of a library feature. The required number of references depends on the definition of the geometry library feature. One reference command is necessary for each mandatory reference in the geometry system and the order of the commands must be the same as the order required in the geometry system.



1. *Part* - The part that is defining the shape (this).
2. *Feature Type* - The geometry feature type for the reference (axis, edge, face, point, plane).
3. *Parent Feature* - The name of the feature on the parent geometry (DatumPlane, FrontFace, CenterLine, etc.).
4. Buttons -
 - OK - Save and close.

- Cancel - Close without saving.

- **Other Buttons**

- Edit - Select an existing Positioning command so that it is highlighted and click this button to edit the command.
- Copy - Select an existing Positioning command so that it is highlighted and click this button to copy the command.
- Delete - Select a Positioning command so that it is highlighted and click on this button to remove the command.
- Move Up - Select a Positioning command so that it is highlighted and click on this button to move the Command up in the list of commands.
- Move Down - Select a Positioning command so that it is highlighted and click on this button to move the command down in the list of commands.

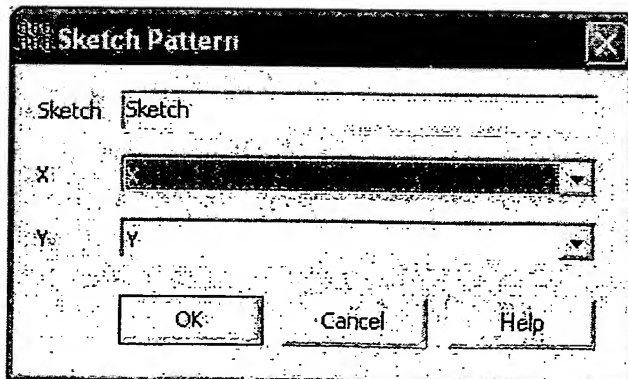
Documentation

- *Description* - Description for spec or constraint available to user at run time.
- *Knowledge Source* - Knowledge Source for spec or constraint.
- *Status* - Spec statuses are calculated from all constraints. If specs exist without constraints, the status is "Unconstrained" otherwise it is the lowest status of all constraints.
- *Last Updated* - User ID, Date, and Time of last update.

Click on this [link to view the Geometry Specification](#) entry information and field definitions.

Sketch Patterns

Sketch Patterning uses a sketch and points to create a pattern of a library feature instead of inserting an individual library feature for each instance. Only the first RuleStream Part (SW Library Feature) will be "live", meaning that only the first (seed) can be driven parametrically. The patterned instances will mirror the dimensions of the seed. Do not use sketch patterns if each instance will be dimensionally different.



Sketch: The name of the sketch on the library feature that will be used to create sketch points for

patterning this feature. This sketch must be part of the library feature in the original SLDLFP file. It also should be *relative* to or be the same sketch used to determine the placement/orientation of the feature.

Note: The name of the Sketch is case sensitive and need not be enclosed in quotes.

X: The property that will determine the X coordinate of each patterned instance (not used on the seed feature).

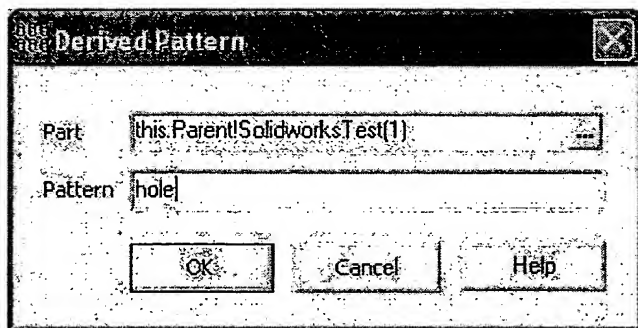
Note: The units of the X and Y property should be consistent with the units used to place/orient the seed feature.

Y: The property that will determine the Y coordinate of each patterned instance (not used on the seed feature).

Note: The units of the X and Y property should be consistent with the units used to place/orient the seed feature.

Derived Patterns

Derived Patterns use a feature on another part to determine the number and placement/orientation of components. Only the first RuleStream Part will be "live", meaning only the first (seed) can be mated and driven parametrically. The patterned instances will mirror the dimensions of the seed. The orientation of each instance will mirror the seed relative to the pattern reference. Do not use derived patterns if each instance will be dimensionally different.



Part: The RuleStream part reference containing the feature that defines this pattern (e.g. this.Parent!Blocks(1)).

Pattern: The name of the feature on the part above that will be used to derive the pattern.

Note: The name of the Pattern is case sensitive and need not be enclosed in quotes. When referencing a sketch pattern created by RuleStream the name will be "SketchPattern".

2D Schematic Overview

Click on any of the links below to view the entry instruction and definitions for all of the fields related

to the 2D Schematic functionality.

Add a New Schematic Spec


Add Schematic Pages

Add Schematic Connections

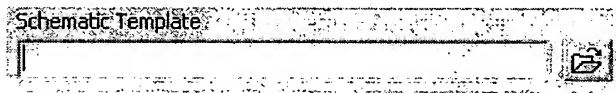
Add Schematic Properties


Add a New Schematic Spec

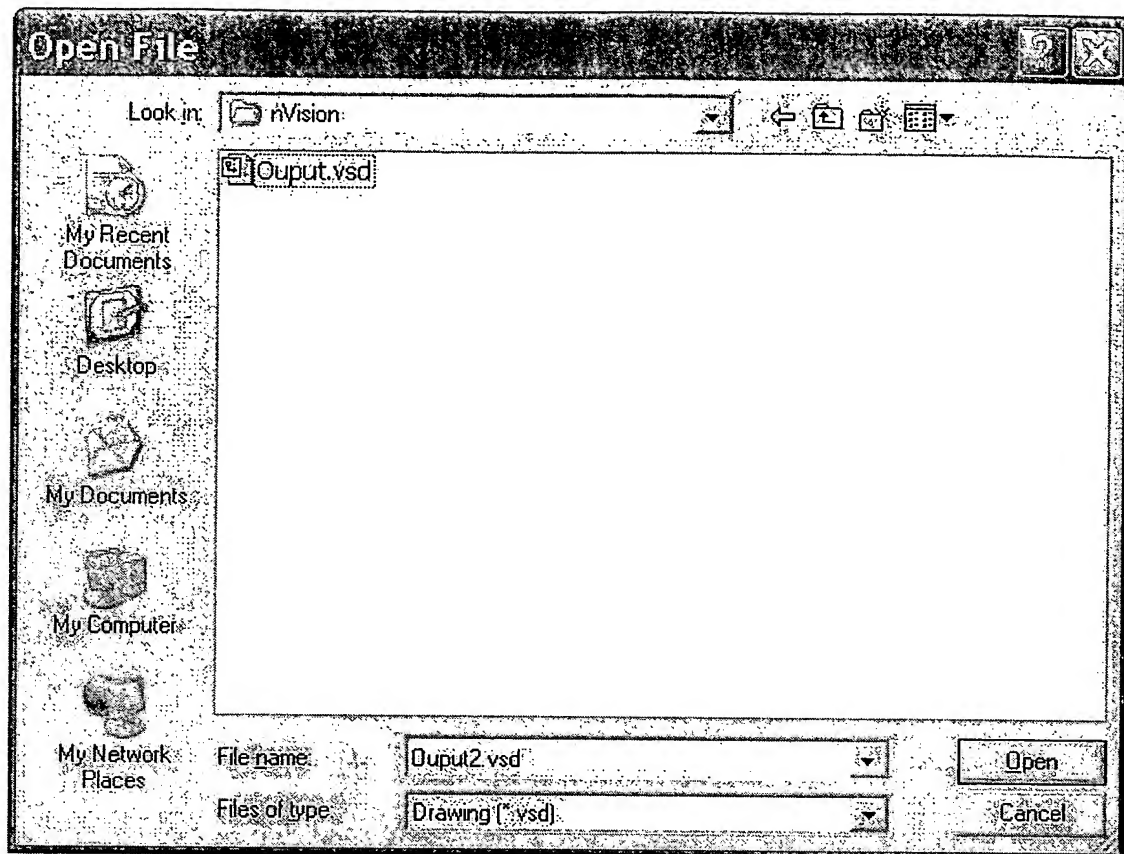
1. Open nAct and select Tools / Edit Rules from the menu bar.
2. Add a New Schematic Spec - A 2D schematic spec is associated with one part family and one schematic page. The Visio Stencil Merge with a top-level part of an application uses the schematic spec in Edit Rules to associate the Visio document created.

The Visio document must first be associated with the top-level part family on the application. To do this, click on the Top Level Part Family, select File / New / Schematic from the menu or click on the New Schematic icon .

- o **Schematic Template** - This is only selected on the top-level part and must be defined prior to adding any more of the 2D information. Associating a schematic template causes a scan of the document for the shapes it contains and fills up the shape tables in the database. This list of shapes then shows up in the Shape field.

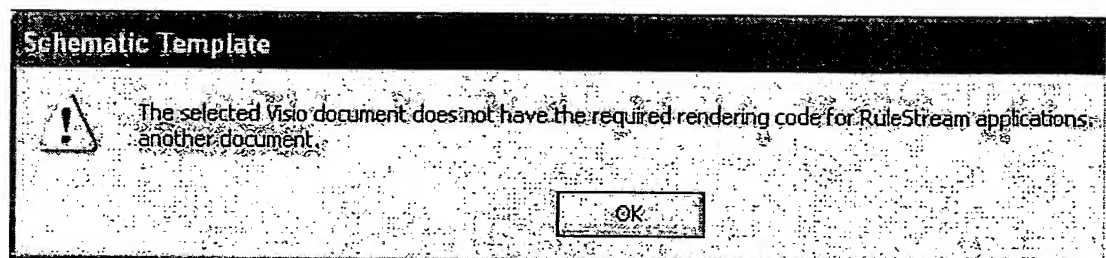


Select the Schematic Template by clicking on the file folder  to locate the *.vsd output document that was created during the Visio Stencil Merge process.

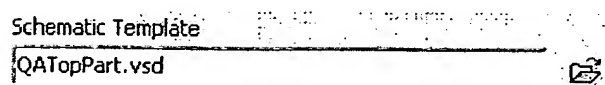


- Highlight the applicable *.vsd file and click on the open button.
- The Open File window closes and an hourglass appears as the shapes contained in the *.vsd file are scanned. (This also copies the *.vsd file from the nVision folder (or where ever else it may be stored) to the docs folder that is specified in the nAct Options.)

Note: If the document getting assigned in this field is not a valid Visio document (created by using the Schematic Deployment Template in Visio Stencil Merge), then the following warning will be displayed and the user will be prompted to select another document.

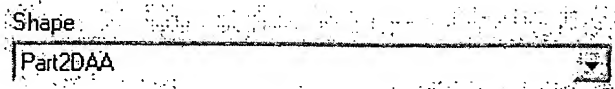


- The *.vsd file now appears in the Schematic Template field.



- **Shape** - Select the applicable shape from the drop down list. Selecting a shape causes it to

be rendered on the drawing page for an instance of the selected part family.



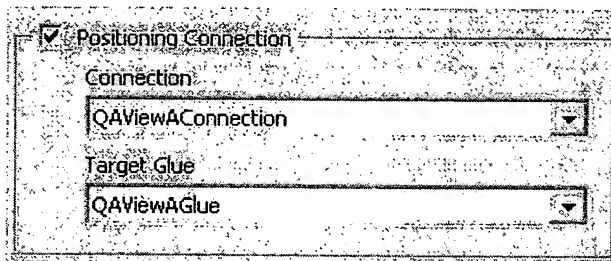
Shape
Part2DAA

- **Page Part** - Specifies if the selected part family represents the whole page. If checked, no other information needs to be entered and all other fields are disabled. If unchecked, at least the shape representing the part family must be selected.



☒ Page Part

- **Positioning Connection** - Used to specify a RuleStream connection of the selected part family that will be used to position the selected shape on the drawing page. (Not used if connecting shapes manually.)

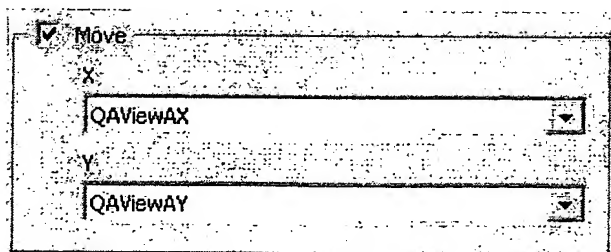


☒ Positioning Connection

Connection:
QAViewAConnection

Target Glue
QAViewAGlue

- Connection - used to select the property that contains the formula that specifies the connection that is to be used for the selected part family. Required only if the shape for an instance of selected part family is directly connected (not with a connector) to another shape on the drawing page.
 - Target Glue - used to select the property that contains a formula that specifies the glue point on the other part family it is connected to. A property selected must provide the name of the glue point of the connecting shape.
- **Move** - specifies whether the position of the shape is to be persisted between model loads/Drawing Page Refreshes. If unchecked, the shape will be positioned at bottom left of drawing page each time the page is re-drawn, regardless of where it was manually moved by the user. If checked, the 'X' and 'Y' fields each need to point to a property of selected part.



☒ Move

X
QAViewAX

Y
QAViewAY

- X - Used to persist the position of the shape. The drop down is a list of properties from the selected part family. The selected property will be used to persist the horizontal placement of the shape.
 - Y - Used to persist the position of the shape. The drop down is a list of properties

from the selected part family. The selected property will be used to persist the vertical placement of the shape.

- **Visible When** - Allows the runtime to decide whether a shape for the selected part family should be shown.

Visible When

- ☒ Subpart of a Page Part
- ☒ Connected to a Page Part

- Subpart of a Page Part - Specifies that a shape for selected part family instance should be shown if the part family is a direct subpart of the part instance represented by the page under consideration.
 - Connected to a Page Part - Specifies that the shape should be shown if the part instance represented by the page is directly connected to the part family instance.
- **Schematic Page** - This is a drop down list of schematic pages that are defined by the user in the Schematic Page window (see [Add Schematic Pages](#)). The shapes are scanned and the shape table in the nRules database is populated when the schematic page is selected. Required entry.

Schematic Pages

QAViewA

- **Last Updated** - This field is automatically populated with the date, time and user name when the schematic spec is saved.

Last Updated:

sa 3/27/2003 9:40:55 AM

- **Resize** - Specifies whether the size of the shape is to be persisted between model loads/Drawing Page Refreshes. If unchecked, the shape will be sized at the bottom left of the drawing page each time the page is refreshed, regardless of where it was manually moved by the user. If checked, the 'Height' and 'Width' fields each need to point to a property of the selected part.

☒ Resize

Height

QAViewAHeight

Width

QAViewAWidth

- Height - Used to persist the size of the shape. The drop down is a list of properties from the selected part family. The selected property will be used to persist the height

of the shape.

- Width - Used to persist the size of the shape. The drop down is a list of properties from the selected part family. The selected property will be used to persist the width of the shape.
- **Rotate** - Used to persist the angle of the shape with respect to the horizontal axis and 'Degree'. The drop down is a list of properties from the selected part family. The selected property will be used to persist the angle of the shape.

A screenshot of a software interface showing a checked checkbox labeled 'Rotate'. Below it is a text field containing 'Degrees' and a dropdown menu with 'QAViewX' selected.

- **Delete** - If checked, at run-time, selecting the shape and pressing the delete key can manually delete the shape. This field does not suppress any other factor that affects the ability of the user to delete this shape. For instance, if 'Delete' is checked but the selected part family's subpart collection is in automatic mode, the user will not be allowed to delete the shape. Deleting a shape also removes the associated part object.

A screenshot of a software interface showing a checked checkbox labeled 'Delete'.

- **Dropped On** - Specifies if the shape for an instance of the selected part family is shown over another shape or on the drawing page.

A screenshot of a software interface showing three radio buttons labeled 'Page', 'Parent', and 'Connection'. The 'Connection' radio button is selected. Below the radio buttons is a text field containing 'Con2DDAA' and a dropdown menu.


- Page - Specifies that the shape is shown on the drawing page.
- Parent - Specifies that the shape is shown on another shape (representing the parent of the selected part family instance).
- Connection - Specifies that the shape is shown on another shape (representing the instance the selected part family is connected to).
- *** Required** - Entry is required when the asterisk is displayed next to the field. User will not be able to save the schematic entry and an error message will be displayed.

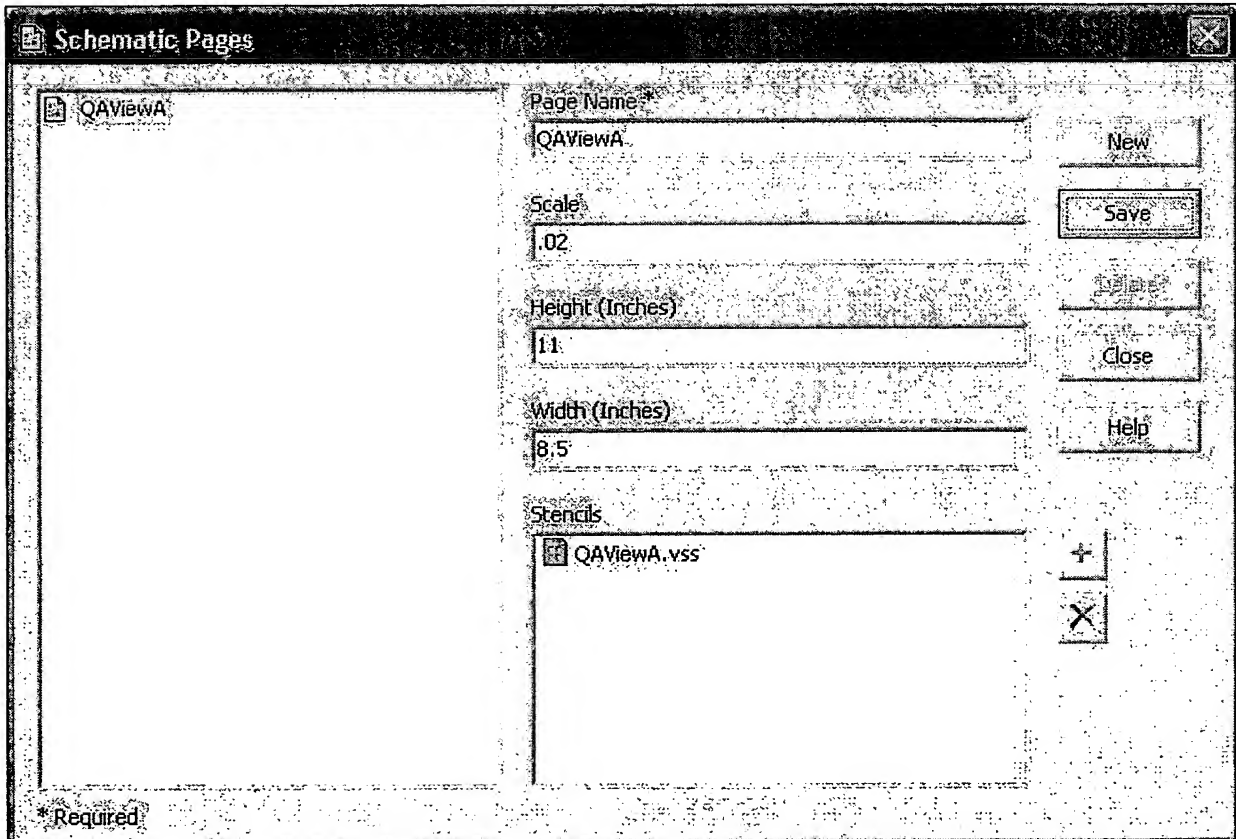
*Repeat the above on any additional schematic pages that are added to other part families. The only difference being that the schematic template is only entered on the top-level part family along with the schematic pages and connections icons being active at that level.

Add Schematic Pages

The purpose of this window is to enter information for size and scale and to add or remove stencils by clicking the "Add" and "Delete" buttons. Selecting stencils from the user provided location copies them into the 'docs' folder specified in nAct options.


After creating the Visio document in the above step, the different 'Page Types' supported by the system are defined. A 'Page Type' (or schematic page) defines a combination of size, scale and the stencils used by the page.


- Click on then **Schematic Pages**  icon from the toolbar (this icon will only be enabled when on the top level part family's Schematic spec). Clicking on this icon will pop up a window for defining schematic page types.



- **Page Name** - It is the name of the page and identifies a setting of size and scale and the stencils it must open. It is used at runtime to determine the size and scale when a new drawing page is opened and also to dynamically open the stencils associated with this page.
- **Scale** - defines the *scale* of a drawing page.
- **Height** - defines the *height* of a drawing page.
- **Width** - defines the *width* of the drawing page.

- **Stencils** - defines which stencils need to be dynamically opened when a drawing page is opened at runtime.

- *Add*  - Click on this button to add a new Stencil.

- *Delete*  - Highlight the stencil to be removed and click on this button. This button is disabled when specs are tied to this schematic page.

- **Buttons:**

- *New* - Click on this button to add a new schematic page definition.

- *Save* - Click on this button to save the entry.

- *Delete* - Highlight the page to be removed and click on the delete button.

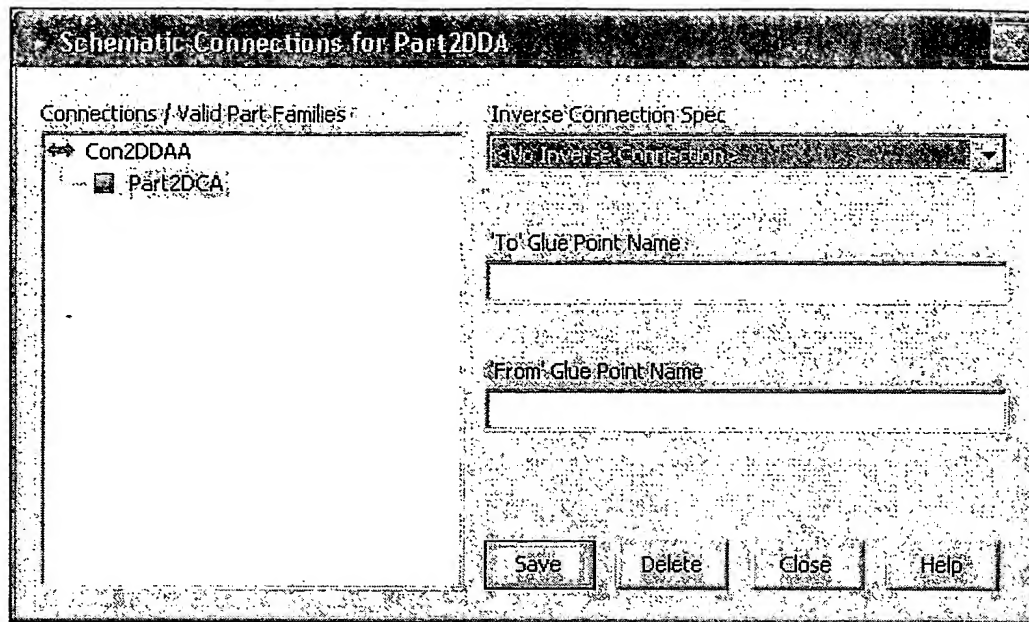
- *Close* - Click on this button to exit the "Schematic Pages" window.

Add Schematic Connections

This feature is used to configure connections between shapes of different part families.

- Click on the Schematic Connections icon  to display the Schematic Connections window.

Note: Connection points must be created on the *.vss stencil/shape prior to adding any Schematic Connections. Also, any information entered here is stored in the connections table in the rules database and not viewed anywhere within nAct Expert. At Run-time this information is used to check if the correct glue points are being used.(If this is not entered then the user cannot connect shapes at run-time.)



- **Connections / Valid Part Families** - Displays the connections applicable to the selected part family and the valid part families each can be connected to.
- **Inverse Connection Spec** - This drop down is populated with all the connection specs with the reverse connection path. It is invoked when a shape of an instance of the selected part family and a shape of the instance of valid part family from the list are connected in the drawing page.
- **"To" Glue Point Name** - This is the glue point on the shape of the part from the valid part family in the list. It is used at run-time to verify the glue points of two connected shapes. (Ex: Part "A" connects "To" a glue point specified on part "B".)
- **"From" Glue Point Name** - This is the glue point on the shape of the part from the valid part family in the list. It is used at run-time to verify the glue points of two connected shapes. (Ex: Part "B" connects "From" a glue point specified on part "A".)


During run-time, nAct uses a connection spec to allow 2 shapes on the drawing page to be connected at certain glue points. The selected part family and valid part family are used to determine whether 2 shapes can be connected and the glue points are used to determine if those 2 shapes can be connected at certain glue points. If the shape connection passes the above 2 tests, then appropriate RuleStream connections (specified by the connections list and Inverse Connection field) are invoked.

Glue points on shapes are locations marked to be used as a point of connection to another shape either at a glue point or the shape directly. Each glue point on a shape is associated with a row of properties in the shape sheet of a shape and each row can have a name. The name also becomes the name of the glue point.

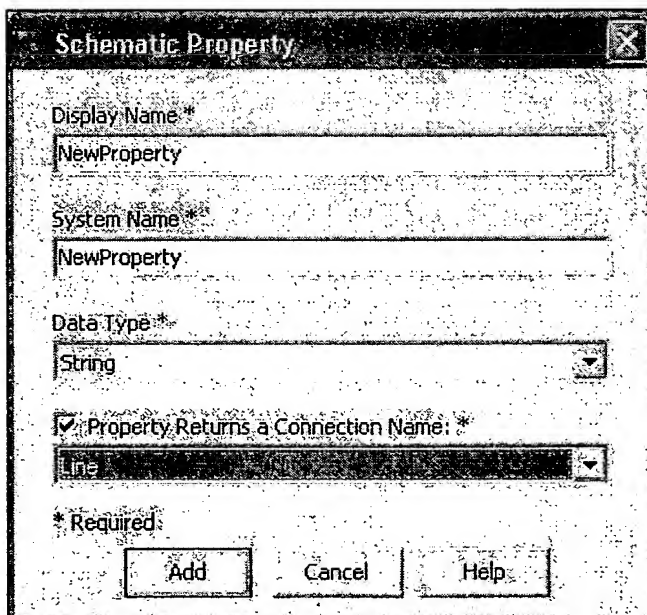
- **Buttons** -
 - **Save** - Click on this button to save the information that has been entered.

- Delete - Click on this button to delete the schematic connection spec.
- Close - Click on this button to close the Schematic Connections window.

Add Schematic Properties

A property used for schematic purposes can also be created by clicking on the  icon on the right side of the toolbar.

Note: Once these properties are created they will appear on the selected part family that the schematic spec is being added to.



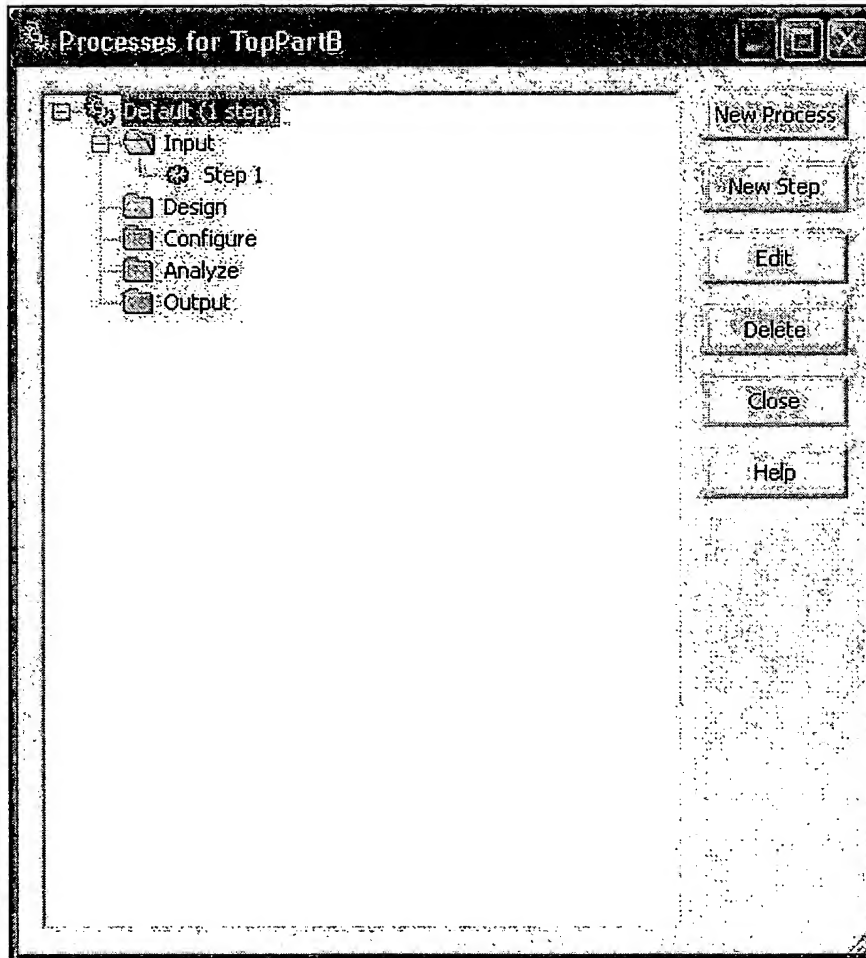
- **Display Name**- Enter the Display name of the new property to be created.
- **System Name** - System name of the new property being created.
- **Data Type** - Data type of the new property being created.
- **Property Returns a Connection Name** - Check this check box if the property is supposed to return a connection name (for example: if the property is used for the Positioning Connection field in schematic spec).

If this field is selected, then the user is required to select a RuleStream connection for the selected part family and this property will be set up as a formula driven property. If not selected than property will be set up as a manually driven property.

- **Buttons -**

- Add - Creates and adds the property to the selected part family.
- Cancel - Cancels the creation of new property for selected part family.

Process Overview



Processes Window - Displays the a list of the processes and the process steps assigned to each Process. (A part family can have any number of processes, each with their own process steps.)

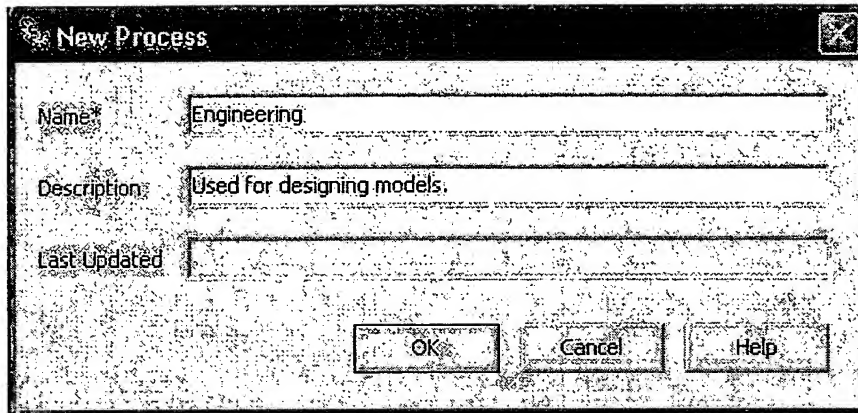
Buttons -

- *New Process* - Click on this button to enter a new process.
- *New Step* - Click on this button enter a new process step.
- *Edit* - Select an existing process so that it is highlight then click on the edit button to change the process information.
- *Delete* - Click on this button to remove the selected Process or Process Step.
- *Close* - Click on this button to close this window.
- *Help* - Click on this button to display this help pertaining to this page.

Process Entry

Displayed are entry instructions for each of the fields available on the Process form.

Process Entry - To create a new process, click on the New Process button. To view or edit the details of a specific process, select it from the list and click on the edit button.



Process Name - Enter a name for the process. *This field is required.*

Process Description - A long name or description of the process.

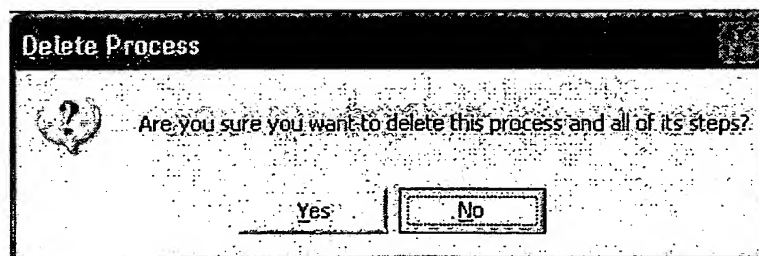
Buttons -

- *OK* - Click on this button to save information entered for this process.
- *Delete* - Click on this button to delete the selected process and all of its process steps.
- *Cancel* - Click on this button to close this window without saving any of the changes that were made for the selected process.
- *Help* - Click on this button to display this help pertaining to this page.

Delete Process

From the Processes window, highlight the Process to be deleted, then click on the Delete button.

Message:



Cause: Occurs when user tries to delete a Process. .

Resolution:

1. Click on Yes to Continue or No to exit out of the delete process..
2. Type in a name without using invalid character and click on Login again.

Process Step Wizard Overview

Click on the links below to view entry instructions for the fields displayed on the Process Step Wizard windows.

[Process Step Name & Description](#)

[Process Step Layout & Contents](#)

[Process Step Part Families](#)

[Process Step Part Family Categories](#)

[Process Step Part Family Specs](#)

[Process Step 2D Schematic Viewer](#)

[Process Step 3D Geometry Viewer](#)

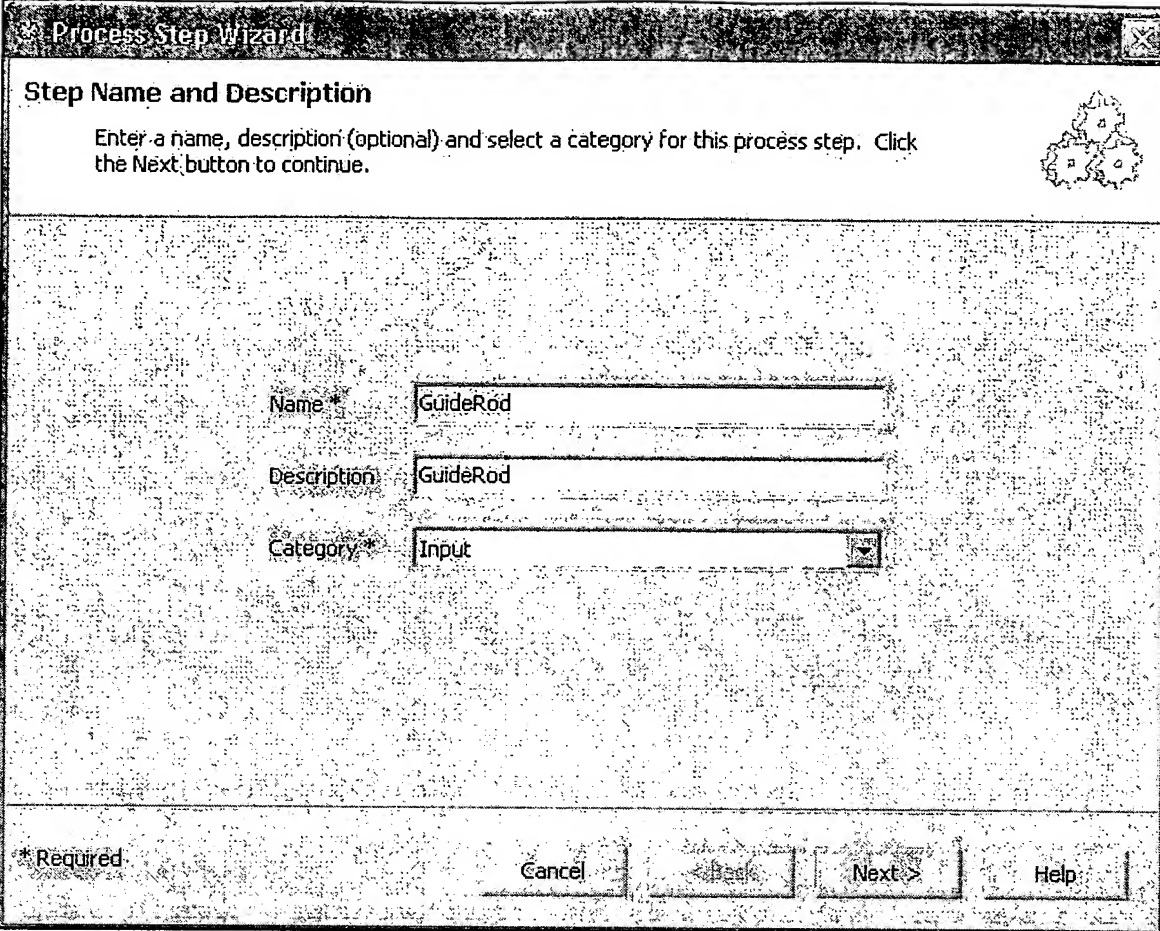
[Process Step Custom Control](#)

[Process Step Drawings](#)

[Process Step Reports](#)

[Process Step Finished](#)

Process Step Name & Description

The image shows a 'Process Step Wizard' dialog box. The title bar says 'Process Step Wizard'. The main heading is 'Step Name and Description'. Below this, there is a text instruction: 'Enter a name, description (optional) and select a category for this process step. Click the Next button to continue.' To the right of this text is a small icon of three interlocking gears. Below the instruction are three input fields: 'Name *' with the value 'GuideRod', 'Description' with the value 'GuideRod', and 'Category *' with a dropdown menu showing 'Input'. At the bottom left, there is a legend for '* Required'. At the bottom right, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Help'.

***Name** - Enter the name of the process step.

Description - Enter the long name or description of the process step.

***Category** - Determines where the process step is located. Select a category from the drop down list. Note: If the category was selected in the previous window it will be displayed in this field when opening the Process Step window. Process steps are grouped by category when displayed during the run-time nAct application.

Note: The Drawings and Reports capability is only available when "Output" is selected for the category.

*** Required** - Entry is required when the asterisk is displayed next to the field. User will not be able to save the schematic entry and an error message will be displayed.

Buttons -

- Cancel - Click on this button to cancel out of the Process Step Wizard..
- Back - Click on this button to go back to the previous window.
- Next - Click on this button to move on to the next step.
- Help - Click on this button to display Help information.

Process Step Layout & Contents

Process Step Wizard

Layout and Frame Contents

Select a frame layout and the user interface elements that will appear in each frame and click the Next button to continue.

Layout options (8 frames):

- Frame 1: 1
- Frame 1: 1, 2
- Frame 1: 1, 2
- Frame 1: 1, 3, 2, 4
- Frame 1: 1, 2, 3
- Frame 1: 1, 2, 3
- Frame 1: 1, 2, 3
- Frame 1: 1, 2, 3

Frame 1*:

Frame 2*:

Frame 3:

Frame 4:

* Required

Buttons: Cancel, < Back, Next >, Help

Designer Window Layout - The screen layout in the nAct application for the process step. The darker portions which refer to the Processes, Model Tree and Property List are static and cannot be changed. Select the appropriate layout for this process step.

Frame 1* - The content of each frame in the selected layout.

- *2D Schematic Viewer* - This option is available only if the 2D option is selected in the site settings and if a 2D Schematic Template has been entered for the selected part family.
- *CAD System* - This option is available only if the Geometry option is selected in the site settings.
- *Part Family Form* - A form containing the properties, connections and subparts of the selected part family. Use the [Filter] link to specify which properties, connections and subparts should be included.
- *Custom Form* - The name of a custom built form.
- *Drawings* - This option is only available when "Output" is selected for the category.
- *Reports* - This option is only available when "Output" is selected for the category.

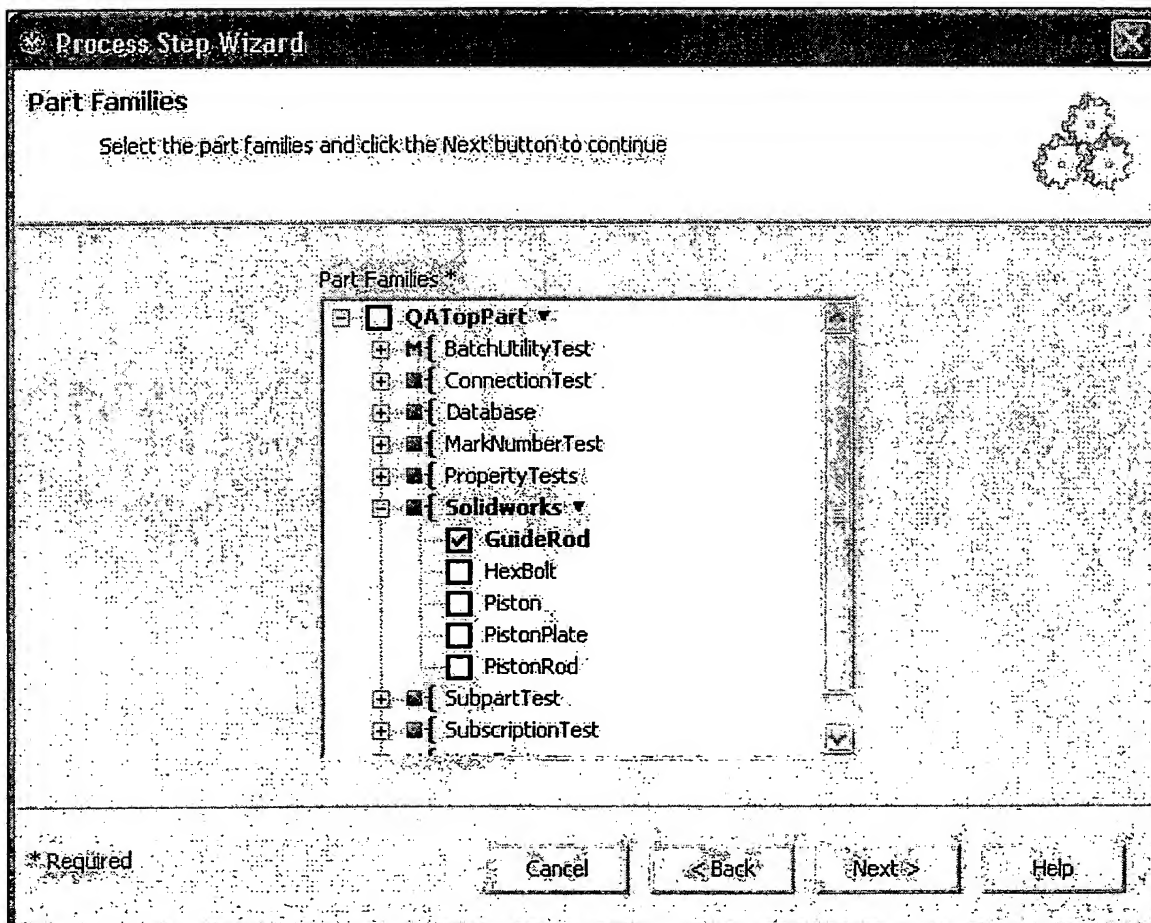
Note: The same content type cannot appear in more than one frame. When "Output" is selected as the Category, the window layouts are not displayed in this window, only Frame 1 is enabled and CAD System, Drawings and Reports are the only items available to be

selected.

Buttons -

- Cancel - Click on this button to cancel out of the Process Step Wizard..
- Back - Click on this button to go back to the previous window.
- Next - Click on this button to move on to the next step.
- Help - Click on this button to display Help information.

Process Step Part Families



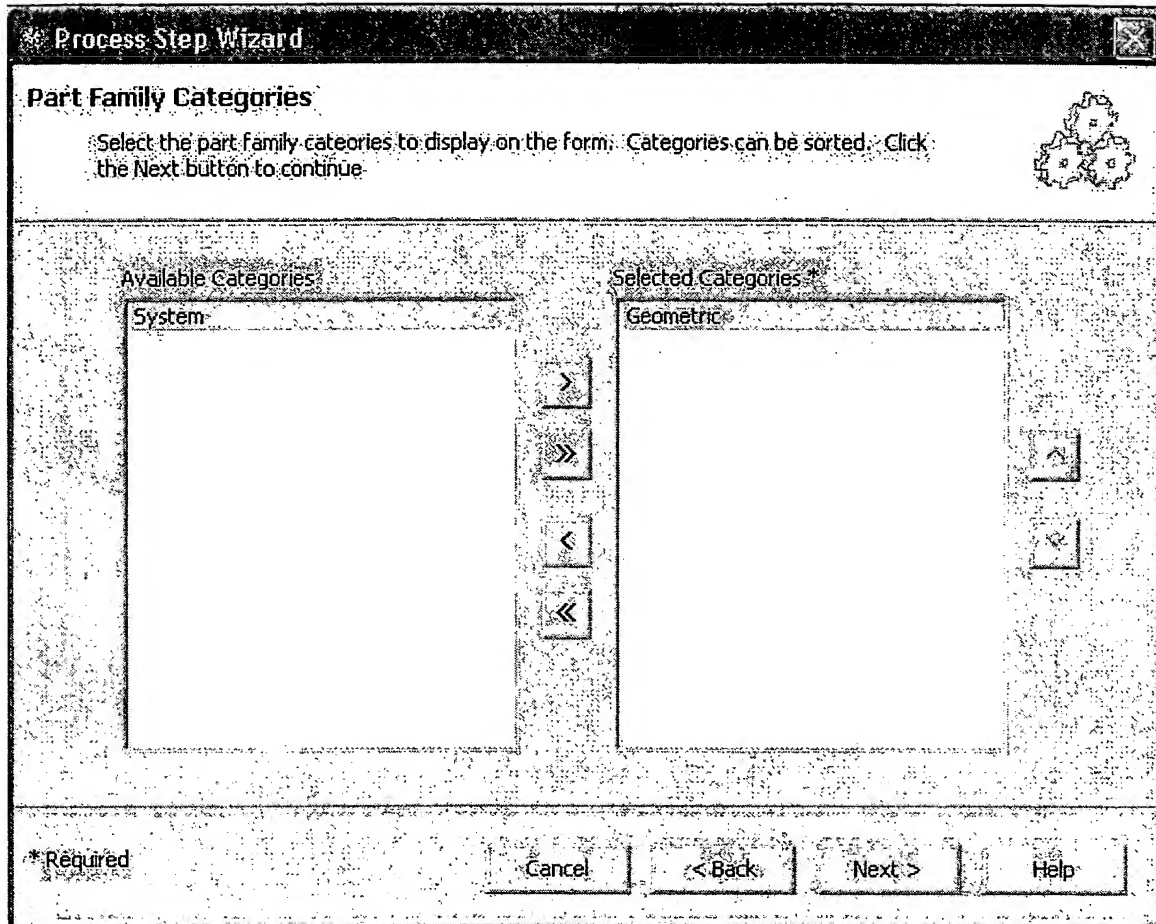
***Part Families** - Part families associated with this process step. Select the applicable part families that apply to this process step. *This field is a required entry field.*

Buttons -

- Cancel - Click on this button to cancel out of the Process Step Wizard..
- Back - Click on this button to go back to the previous window.
- Next - Click on this button to move on to the next step.
- Help - Click on this button to display Help information.

Process Step Part Family Categories

This window is used to select which spec categories will be shown on the dynamic UI when editing a model in nAct.

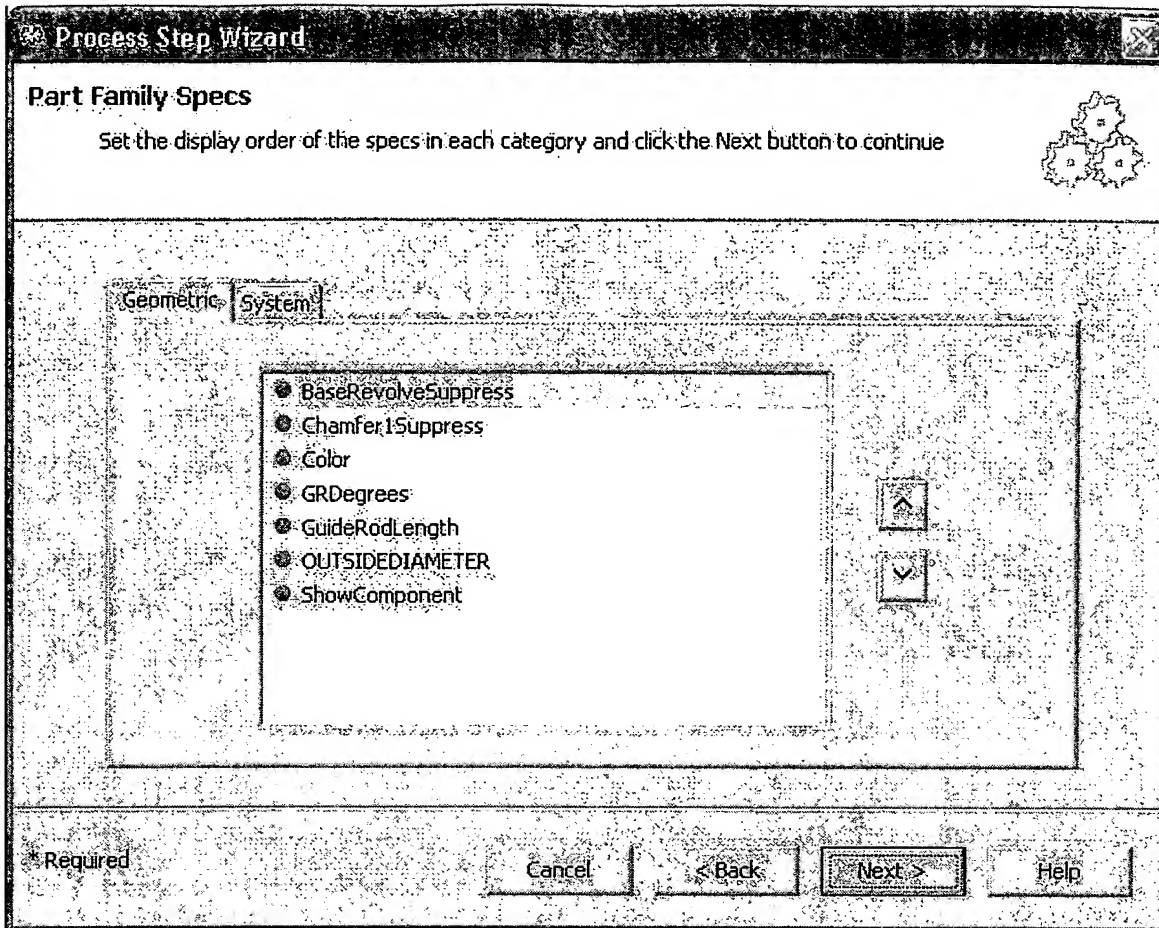


Select categories by moving them from the Available Categories column to the Selected Categories column using the arrow buttons.

Buttons -

- Cancel - Click on this button to cancel out of the Process Step Wizard..
- Back - Click on this button to go back to the previous window.
- Next - Click on this button to move on to the next step.
- Help - Click on this button to display Help information.

Process Step Part Family Specs



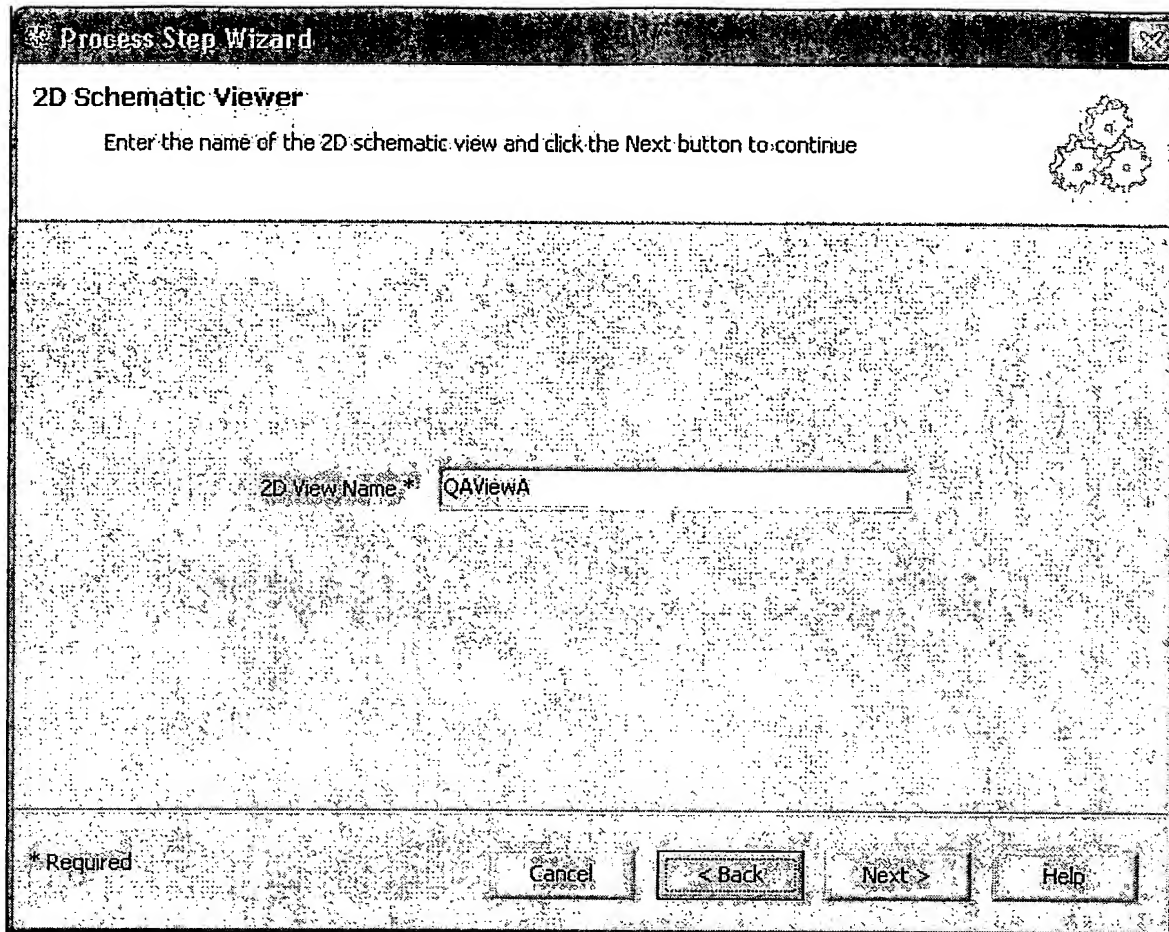
Sort the specs by using the mouse to drag and drop them in the list at the desired location, or use the Move Up and Move Down buttons to move the specs.

After the specs have been sorted, click the OK button to return to the Process Step Categories window. Click the Cancel button to return without saving.

Buttons -

- o Cancel - Click on this button to cancel out of the Process Step Wizard..
- o Back - Click on this button to go back to the previous window.
- o Next - Click on this button to move on to the next step.
- o Help - Click on this button to display Help information.

Process Step 2D Schematic Viewer



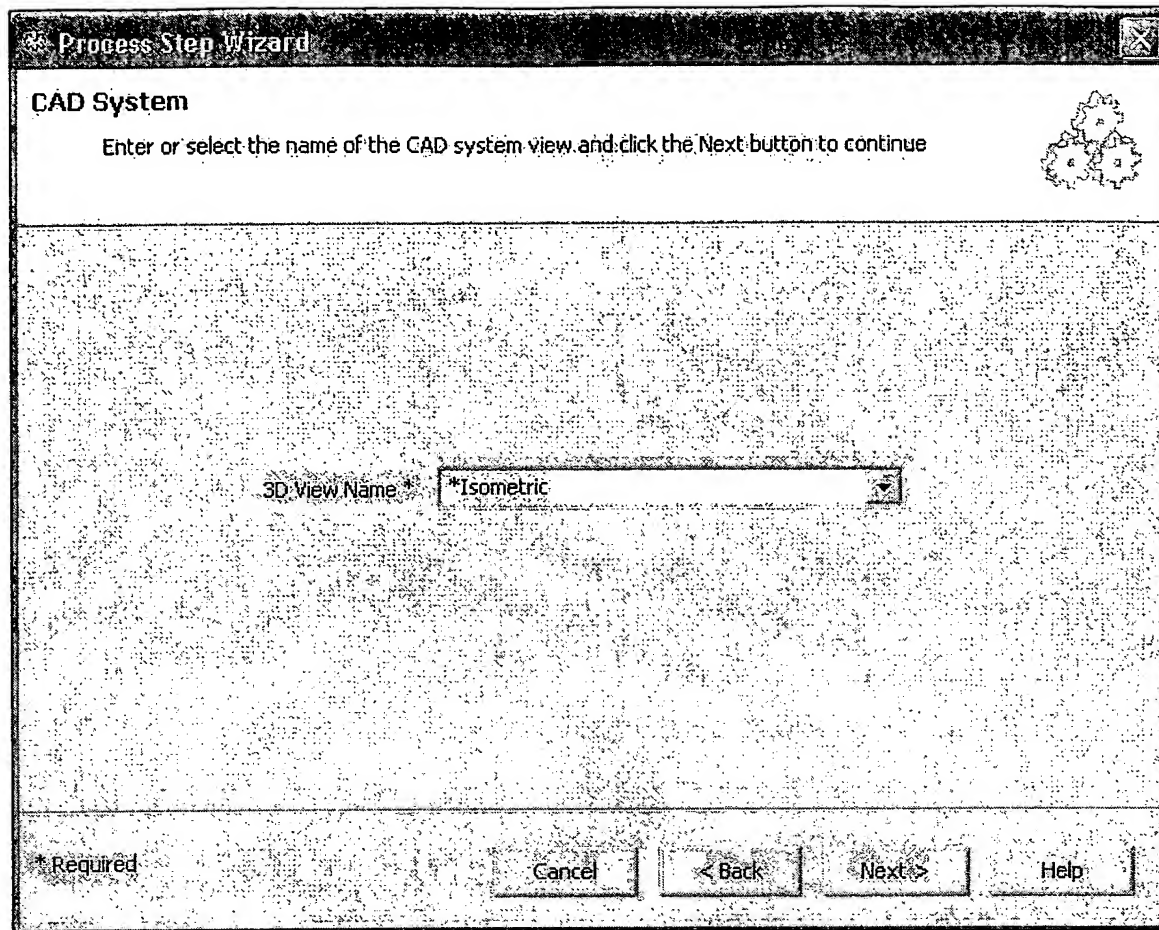
The screenshot shows a software dialog box titled "Process Step Wizard" with a sub-header "2D Schematic Viewer". Below the sub-header, it says "Enter the name of the 2D schematic view and click the Next button to continue". There is a text input field labeled "2D View Name" with an asterisk, containing the text "QAViewA". At the bottom, there is a legend for the asterisk: "* Required". To the right of the legend are four buttons: "Cancel", "< Back", "Next >", and "Help". A gear icon is located in the top right corner of the dialog box.

2D Schematic Viewer - Enter the applicable view name and click on the next button. This option is available only if the 2D option is selected in the site settings and if a 2D Schematic Template has been entered for the selected part family.

Buttons -

- Cancel - Click on this button to cancel out of the Process Step Wizard..
- Back - Click on this button to go back to the previous window.
- Next - Click on this button to move on to the next step.
- Help - Click on this button to display Help information.

Process Step CAD System



The screenshot shows a dialog box titled "Process Step Wizard". Inside, there is a section labeled "CAD System" with the instruction "Enter or select the name of the CAD system view and click the Next button to continue". Below this, there is a text field labeled "3D View Name" with the value "*Isometric" entered. At the bottom of the dialog, there are four buttons: "Required" (with an asterisk), "Cancel", "< Back", and "Next >" (with a right arrow), followed by a "Help" button. A small icon of three interlocking gears is located in the top right corner of the dialog.

CAD System - Enter or select the name of the CAD System view and click the next button to continue.

Buttons -

- o Cancel - Click on this button to cancel out of the Process Step Wizard..
- o Back - Click on this button to go back to the previous window.
- o Next - Click on this button to move on to the next step.
- o Help - Click on this button to display Help information.

Process Step - Custom Control

Process Step Wizard

Drawing

Select a drawing file and fill in the grid. Click the Next button to continue.

Drawing File:

Current Doc	Reference	View
mgp_guide rod.sldprt	this	Sheet1: Drawing View1
		Sheet1: Drawing View2
		Sheet1: Drawing View3

Sheet	Scale	View	Config
Sheet1	2/1	Drawing View1	"MGPM12-10"
		Drawing View2	"MGPM12-10"
		Drawing View3	"MGPM12-10"

* Required

Cancel < Back Next > Help

Custom Control - Enter the name of the custom control class and click on the next button.

Buttons -

- Cancel - Click on this button to cancel out of the Process Step Wizard..
- Back - Click on this button to go back to the previous window.
- Next - Click on this button to move on to the next step.
- Help - Click on this button to display Help information.

Process Step - Drawings

Process Step Wizard

Drawing

Select a drawing file and fill in the grid. Click the Next button to continue.

Drawing File:

Current Doc	Reference	View
mgp_guide rod SLDDRW	this	Sheet1: Drawing View1
		Sheet1: Drawing View2
		Sheet1: Drawing View3

Sheet	Scale	View	Config
Sheet1	2/1	Drawing View1	"MGPM12-10"
		Drawing View2	"MGPM12-10"
		Drawing View3	"MGPM12-10"

* Required

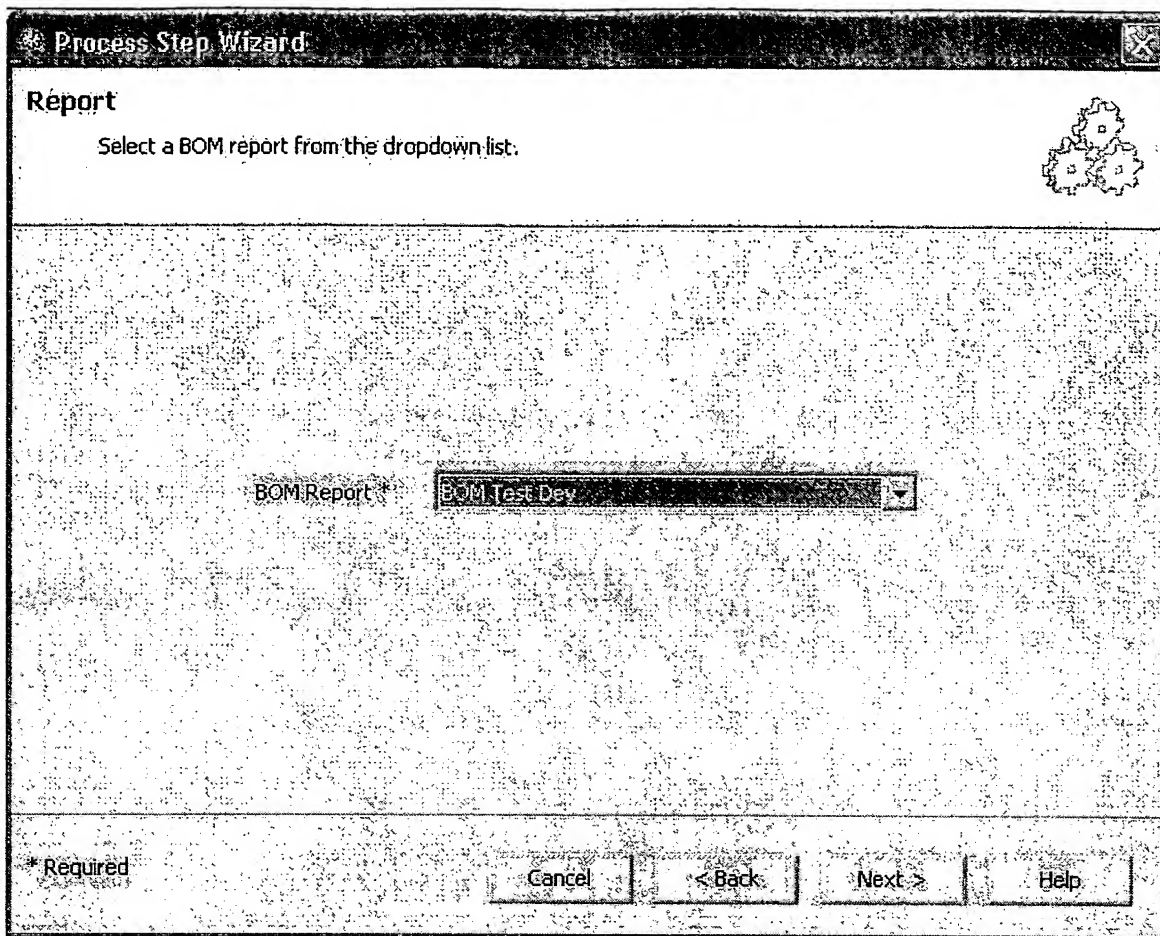
Cancel < Back Next > Help

Drawings - Select the applicable drawing file (wait until the information gets loaded) and click on the next button. This option is only available for Process Steps that are created with "Output" as the selected category.

Buttons -

- o Cancel - Click on this button to cancel out of the Process Step Wizard..
- o Back - Click on this button to go back to the previous window.
- o Next - Click on this button to move on to the next step.
- o Help - Click on this button to display Help information.

Process Step - Reports



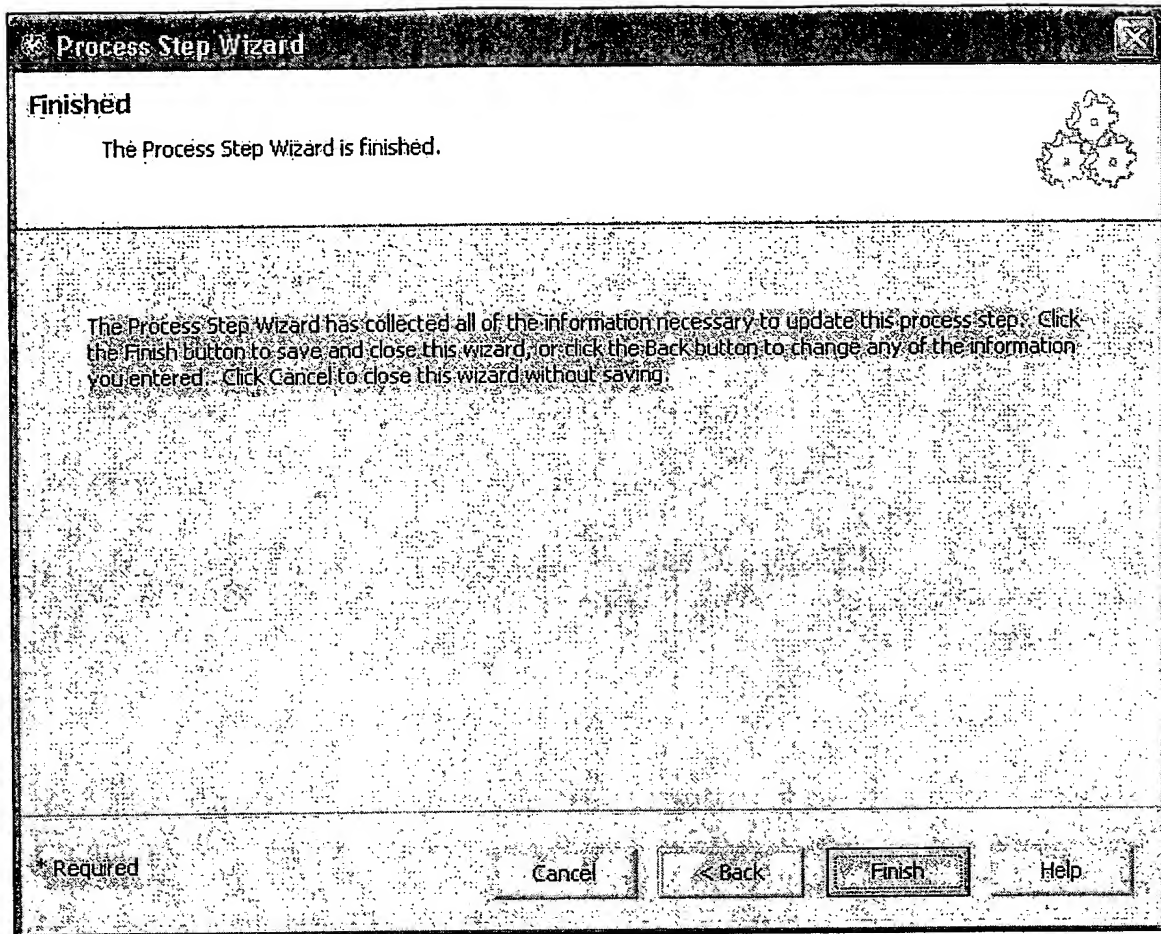
The image shows a screenshot of the 'Process Step Wizard' window. The title bar reads 'Process Step Wizard'. The main heading is 'Report'. Below it, the instruction says 'Select a BOM report from the dropdown list.' In the center, there is a label 'BOM Report *' followed by a dropdown menu. The dropdown menu is open, showing 'BOM Test Dev' as the selected option. At the bottom left, there is a note '* Required'. At the bottom right, there are four buttons: 'Cancel', '< Back', 'Next >', and 'Help'. There is also a small gear icon in the top right corner of the window.

Report - Select the applicable report from the drop down and click on the next button. This option is only available for Process Steps that are created with "Output" as the selected category.

Buttons -

- Cancel - Click on this button to cancel out of the Process Step Wizard..
- Back - Click on this button to go back to the previous window.
- Next - Click on this button to move on to the next step.
- Help - Click on this button to display Help information.

Process Step Finished



Buttons -

- Cancel - Click on this button to cancel out of the Process Step Wizard..
- Back - Click on this button to go back to the previous window.
- Next - Click on this button to move on to the next step.
- **Finish** - Click on this button to complete entry of the process step.
- Help - Click on this button to display Help information.

Miscellaneous Features

The following areas provide information regarding other features available when editing rules.

What are menus and toolbars?

You can use menus and toolbars to give instructions about what you want to do.

A menu displays a list of commands. Most menus are located on the menu bar at the top of the window. Some shortcuts are available when you right-click text, objects, or other items.

A toolbar contains buttons with images, menus, or a combination of both. The items on the toolbar will be displayed and hidden depending on what form or what action is being taken.

- o Menu Items - Displays a listing of items that are available to select from the menu.
- o Toolbar Items - Displays a listing of items that are available to select from the toolbar.

What does the "Copy" Functionality provide?

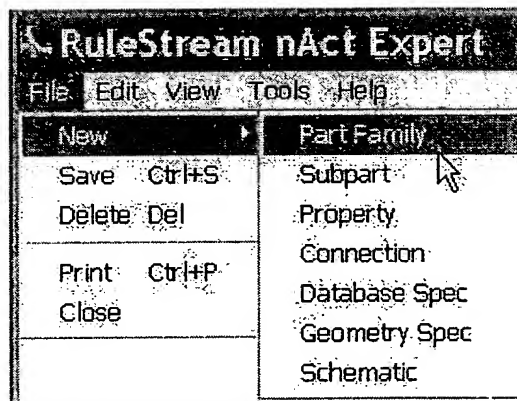
The Copy functionality gives the user the ability to copy information from one part family to another which is a time savings when it comes down to entering duplicate information.

Copy Functionality - Displays links to the Copy To and Copy From instructions.

- o Copy To - Provides information and entry instructions on the "Copy To" feature.
- o Copy From - Provides information and entry instructions on the "Copy From" feature.

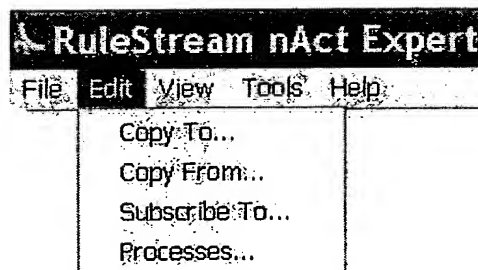
Menu Items

File, Edit, View, Tools and Help are the available menu items. Other commands are contained within each of these options and are listed as follows (Note - Commands are enabled according to what form [Part Family, Subpart, Etc.,] is active.):



Select **F**ile from the menu bar:

1. New - Select to enter a New Part Family, Subpart, etc.
2. Save - Select to save current entry.
3. Delete - Select to delete the currently selected entry.
4. Print - Select to print the information on the current form.
5. Close -

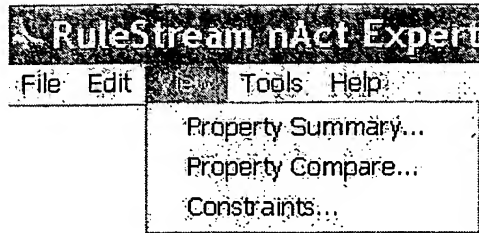


Select **E**dit from the menu bar:

1. Copy to
2. Copy From
3. Subscribe To
4. Processes

Select **V**iew from the menu bar:

1. Property Summary
2. Property Compare

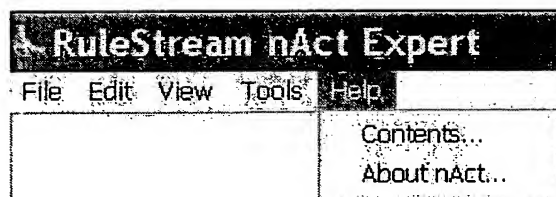


3. Constraints



Select **T**ools from the menu bar and the following items are displayed:

1. Delete Constraint
2. Formula History
3. Check Syntax
4. Formula Editor
5. Valid Values List Wizard
6. Valid Values Query Wizard
7. Database Preferences
8. Geometry Features
9. Subscriber
10. Delete Subscriber
11. New Property

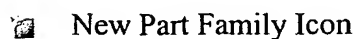


Select **H**elp from the menu bar and the following items are displayed:

1. Contents
2. About nAct

















Toolbar Items







Click on any of the links below to view the definitions for all of the fields displayed on each of the applicable forms.



New Part Family Icon

- Click on this icon to add a New Part Family.

- | | | |
|---|---------------------------|---|
|  | New Subpart Icon | - Click on this icon to add a New <u>Subpart</u> . |
|  | New Property Icon | - Click on this icon to add a New <u>Property</u> . |
|  | New Connection Icon | - Click on this icon to add a New <u>Connection</u> . |
|  | New Database Icon | - Click on this icon to add a New <u>Database</u> . |
|  | New Geometry Icon | - Click on this icon to add a New <u>Geometry</u> . |
|  | New 2D Schematic Icon | - Click on this icon to add a New <u>2D Schematic</u> . |
|  | Save Icon | - Click on this icon to save the entered information. |
|  | Delete Specification Icon | - Click on this icon to delete the displayed Specification. |
|  | Delete Constraint Icon | - Click on this icon to delete the displayed Constraint. |
|  | Copy To Icon | - Click on this option to copy information to another part family? User can copy the information from the selected part to an Existing or a New Part Family. |
|  | Copy From Icon | - Click on this option to copy information from the selected part family to another part family. |
|  | Summary Icon | - Click on this Icon from a Property to display a summary of all attributes for this Property. |
|  | Compare Icon | - Click on this option from a Subpart, Property or Connection to display all valid part families override paths and a list of subparts owned by each.
<i>**Note: All valid part families must contain a property of the same name and type to be available for an override constraint.</i> |
|  | Print Icon | - Click on this icon to print the displayed page. |
|  | Help Icon | - Click on this icon to display the Help information pertaining to the displayed page. |
|  | Constraints Icon | - Displays a list of constraints owned by the selected part family. Includes overrides for specs owned by subordinate part families. |

- | | | |
|---|--------------------------------|---|
|  | Formula History Icon | - Click on this icon to display a History of the Formulas that have been entered for the selected Constraint. User also has the ability to restore a previous formula by selecting it and clicking on the Restore button. |
|  | Check Formula Syntax Icon | - Click on this icon to check the syntax that has been entered for the displayed formula. |
|  | Formula Editor Icon | - Click on this icon to display the formula editor. |
|  | Valid Values List Wizard Icon | - Click on this icon to display the wizard for entering a list of Valid Values. |
|  | Valid Values Query Wizard Icon | - Click on this icon to display the wizard for entering a Query for Valid Values. |
|  | Processes Icon | - Click on this icon to display the Process window information. |


Copy Functionality

Click on either of the links below to view the information and entry instructions regarding the "Copy To" and "Copy From" functionality .

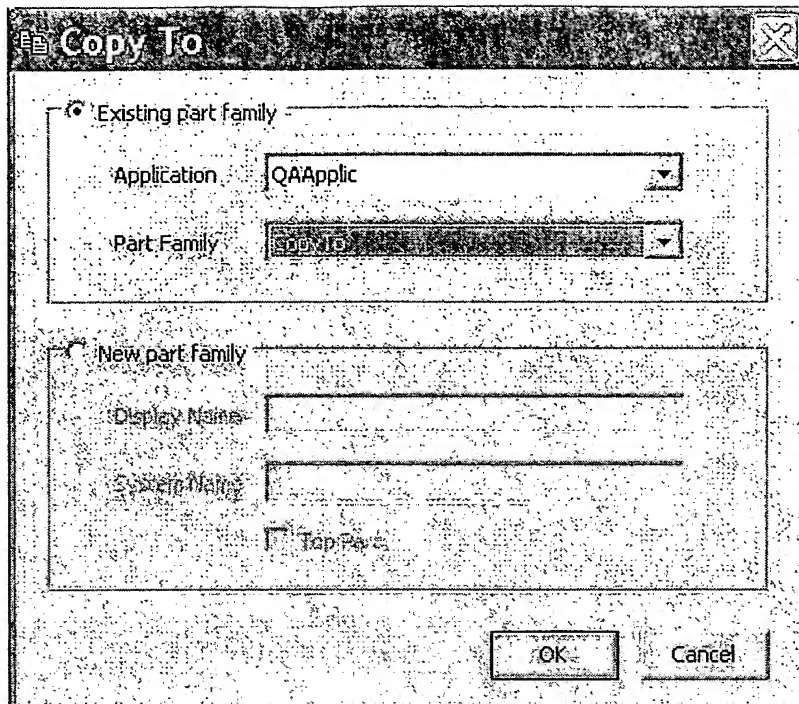
- [Copy To - Provides information and entry instructions on the "Copy To" !\[\]\(815df092dd722ee9268ef8e6d0193e3a_img.jpg\) feature.](#)

- [Copy From - Provides information and entry instructions on the "Copy From" !\[\]\(4e333a6106fc298d0ae6dff272a736ef_img.jpg\) feature.](#)

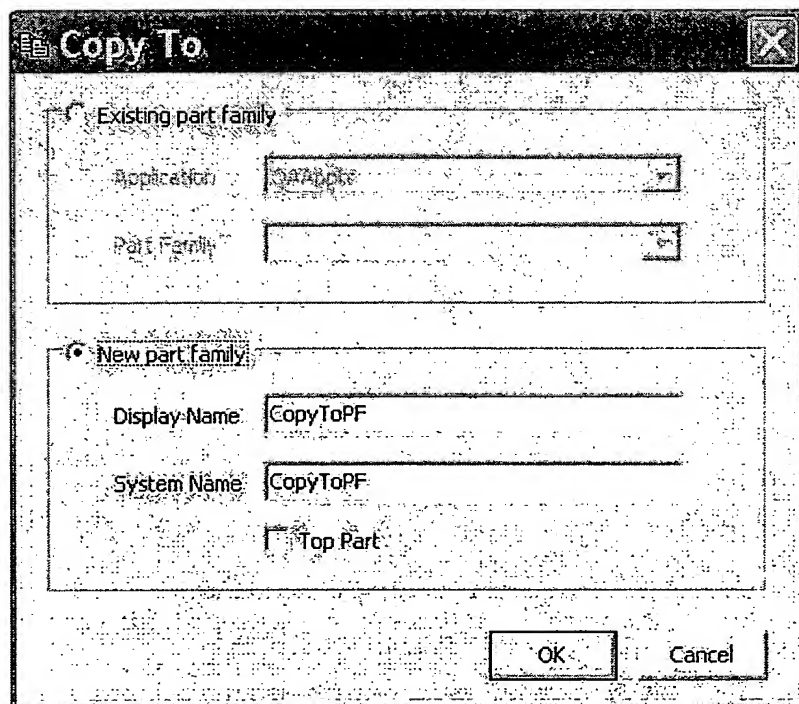
Copy To

Select a Part Family from the list of part families. Click on the **Copy To**  icon to copy information to another part family. (User has the ability to copy the information from the selected part to an Existing or a New Part Family.)

Existing Part Family - Copies information from the selected part family to an existing part family.



New Part Family - Copies information from the selected part family to a New part Family that is entered and saved during this process.



Type -

- *Part Family* - Attributes and values specified on the Part Family tab (e.g. shape, document, comments, etc.)
- *Local Spec* - Spec owned by source part family.
- *Local Constraint* - Constraint owned by source part family.

- *Part_Family.Subpart[.Subpart]* - Constraint owned by another part family also known as an override. Format specifies owner part family and all subparts in override path.

Copy From QATopPart				
Name	Type	Copy	Exists	Mismatch
Properties				
DisplayName	Local Spec	<input checked="" type="checkbox"/>		
PartNumber	Local Spec	<input checked="" type="checkbox"/>	Y	
TestValidation	Local Spec	<input checked="" type="checkbox"/>		
TitleBarCaption	Local Constraint	<input checked="" type="checkbox"/>		
ValidationMessage	Local Spec	<input checked="" type="checkbox"/>		
ValidModel	Local Constraint	<input checked="" type="checkbox"/>		
ValidModel	Local Spec	<input checked="" type="checkbox"/>		
ValidModel	Local Constraint	<input checked="" type="checkbox"/>		
Subparts				
Connections				
ConnTest	Local Spec	<input checked="" type="checkbox"/>		
	Local Constraint	<input checked="" type="checkbox"/>		
Database				
DBTest	QATopPart: Database	<input checked="" type="checkbox"/>		
test13	QATopPart: Database	<input checked="" type="checkbox"/>		

Copy - Specifies which entities will be copied.

Note: Selecting a local constraint will automatically select the corresponding local spec to be copied. Selecting an override will likewise select the subpart spec involved in the override path.

Exists - Indicates if the entity exists on the destination part family.

Mismatch - Indicates the entity exists on the destination part family, but does not match in terms of type, data type, etc. Mismatched specs that are constrained on the destination cannot be copied until the destination constraints are removed.

Note: If selected, mismatches will be replaced by the entity from the source part family, provided constraints do not exist on the destination spec. Details of the mismatch are available in the "Mismatched Specification" window.

Mismatched Specifications - Details of the mismatches from above listing.

Copy From

Name - Name of entity to be copied, grouped by Part Family, Properties, Subparts, Connections, etc.

Type -

- *Part Family* - Attributes and values specified on the Part Family tab (e.g. shape, document, comments, etc.)
- *Local Spec* - Spec owned by source part family.
- *Local Constraint* - Constraint owned by source part family.
- *Part_Family.Subpart[.Subpart]* - Constraint owned by another part family also known as an override. Format specifies owner part family and all subparts in override path.

Name	Type	Copy	Exists	Misma
Properties				
DisplayName	Local Spec	<input checked="" type="checkbox"/>		
PartNumber	Local Spec	<input checked="" type="checkbox"/>	Y	
TestValidation	Local Spec	<input checked="" type="checkbox"/>		
TitleBarCaption	Local Constraint	<input checked="" type="checkbox"/>		
ValidationMessage	Local Spec	<input checked="" type="checkbox"/>		
ValidModel	Local Constraint	<input checked="" type="checkbox"/>		
Subparts				
Connections				
ConnTest	Local Spec	<input checked="" type="checkbox"/>		
	Local Constraint	<input checked="" type="checkbox"/>		
Database				
DBTest	QATopPart.Database	<input checked="" type="checkbox"/>		
test13	QATopPart.Database	<input checked="" type="checkbox"/>		

Copy - Specifies which entities will be copied.

Note: Selecting a local constraint will automatically select the corresponding local spec to be copied. Selecting an override will likewise select the subpart spec involved in the override path.

Exists - Indicates if the entity exists on the destination part family.

Mismatch - Indicates the entity exists on the destination part family, but does not match in terms of type, data type, etc. Mismatched specs that are constrained on the destination cannot be copied until the destination constraints are removed.

Note: If selected, mismatches will be replaced by the entity from the source part family, provided constraints do not exist on the destination spec. Details of the mismatch are available in the "Mismatched Specification" window.

Mismatched Specifications - Details of the mismatches from above listing.

Edit Rules Error Messages

Click on any of the following error categories to view a breakdown of error messages that may occur when Editing the Rules. Select the specific error to display the message, cause and resolution.

[Part Family Error Messages](#)

[Subpart Error Messages](#)

[Property Error Messages](#)

[Connection Error Messages](#)

[Database Error Messages](#)

[Geometry Error Messages](#)

[2D Schematic Error Messages](#)

[Process Error Messages](#)

[Miscellaneous Error Messages](#)

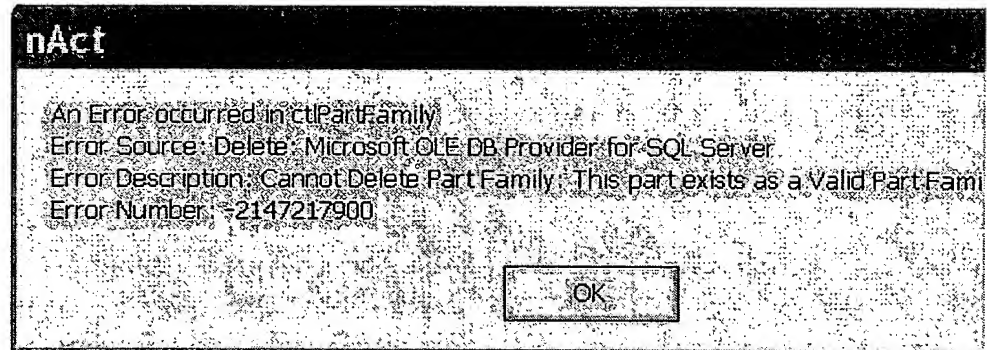
Part Family Error Messages


Select the specific error to display the message, cause and resolution.

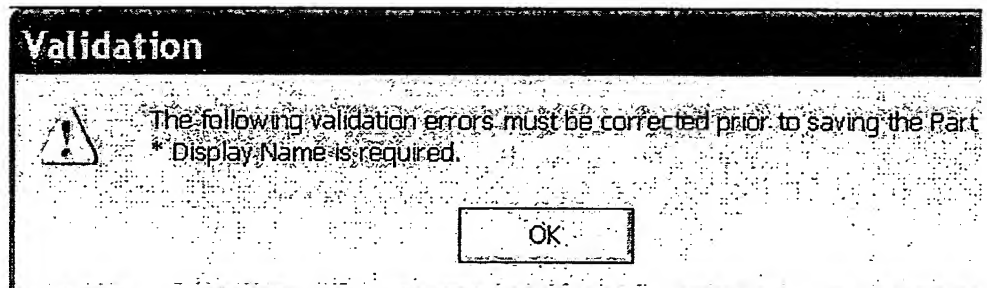
[Part Family - Cannot Delete](#)

[Part Family - Display Name Required](#)

[Part Family - Duplicate Display Name](#)


Part Family - Duplicate System NamePart Family - System Name Required**Part Family - Cannot Delete Part Family****Message:****Cause:** Occurs when the user tries to delete a part family that exists in a Subpart.**Resolution:**

1. Click on OK.
2. Remove the Part Family from the Subpart (s) it is associated with.
3. Click on Delete  again.

Part Family - Display Name is required**Message:**

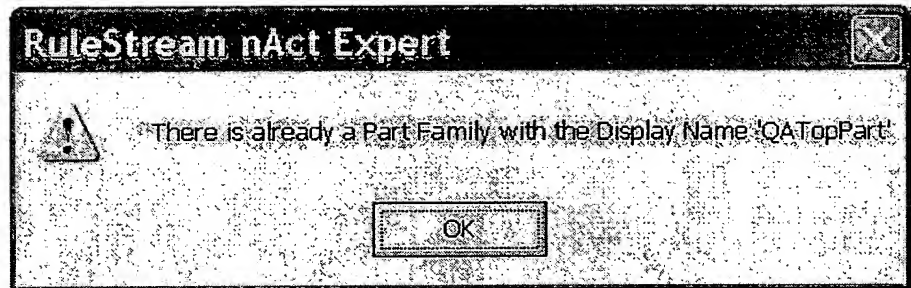
Cause: Occurs when the user enters a new Part Family and tries to save without entering a Display name.

Resolution:

1. Click on OK.
2. Enter a valid Display Name.
3. Click on Save  again.


Part Family - Duplicate Display Name

Message:



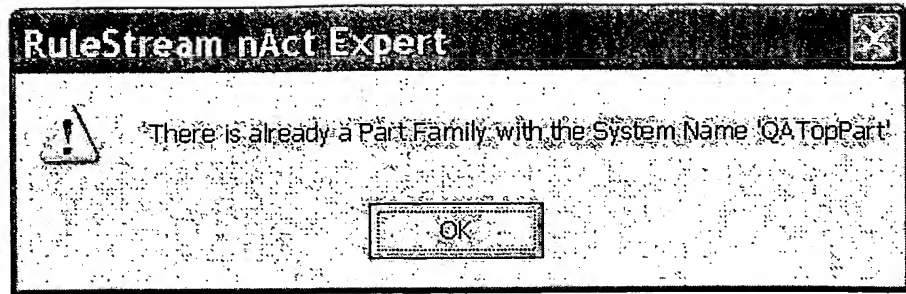
Cause: Occurs when the user enters a Display name that has already exists in the database.

Resolution:

1. Click on OK.
2. Enter a different Display Name.
3. Click on Save  again.


Part Family - Duplicate System Name

Message:



Cause: Occurs when the user enters a System name that has already exists in the database.

Resolution:


1. Click on OK.
2. Enter a different System Name.
3. Click on Save  again.

Part Family - System Name is required

Message:

Cause: Occurs when the user enters a new Part Family and tries to save without entering the System name.

Resolution:

1. Click on OK.
2. Enter a valid System Name.
3. Click on Save  again.

Subpart Error Messages

Select the specific error to display the message, cause and resolution.

Subpart - Display Name Required

Subpart - Duplicate Display Name

Subpart - Duplicate System Name

Subpart - Exists When Formula Required

Subpart - Invalid Optimal Part Family Formula

Subpart - Invalid Quantity Formula

Subpart - Optimal Part Family Formula Required

Subpart - Part Names Required

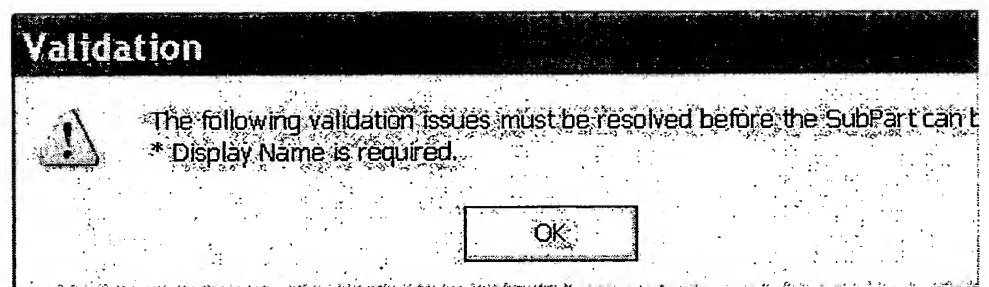
Subpart - Quantity Formula Required

Subpart - System Name Required

Subpart - Valid PF Required

Subpart - Display Name is required


Message:



Cause:

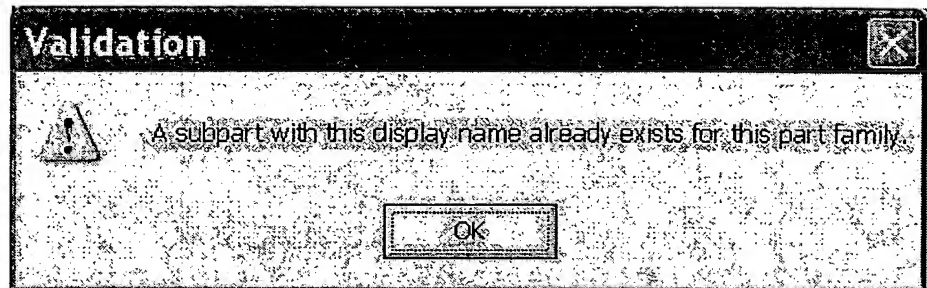
Occurs when the user enters a new Subpart and tries to save without entering Display Name.

Resolution:

1. Click on OK.
2. Enter a valid Display Name.
3. Click on Save  again.

Subparts - Subpart with the display name 'ABC' already exists for this Part Family

Message:



Cause:

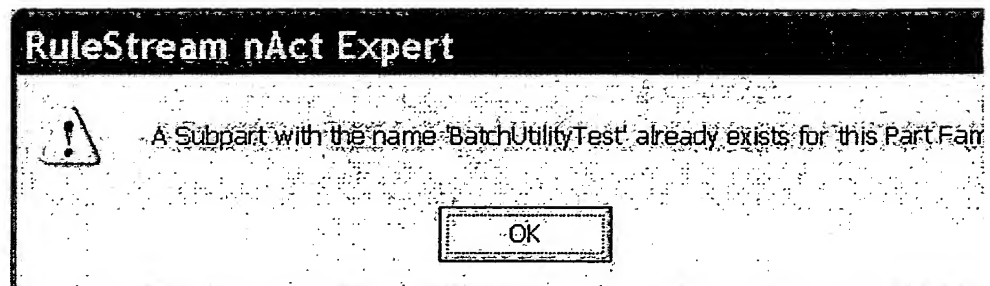
Occurs when the user enters a Subpart with a Display Name that has already exists in the database.

Resolution:

1. Click on OK.
2. Enter a different Display Name.
3. Click on Save  again.


Subparts - Subpart with the name 'ABC' already exists for this Part Family

Message:



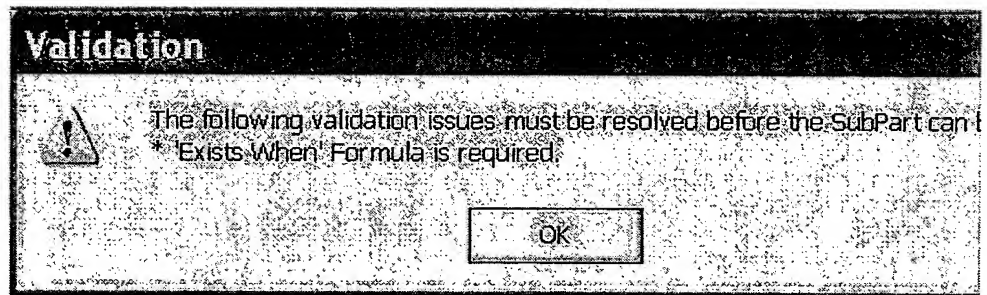
Cause: Occurs when the user enters a Subpart with a System Name that has already exists in the database.

Resolution:

1. Click on OK.
2. Enter a different System Name.
3. Click on Save  again.


Subparts - Exists When Formula is required

Message:



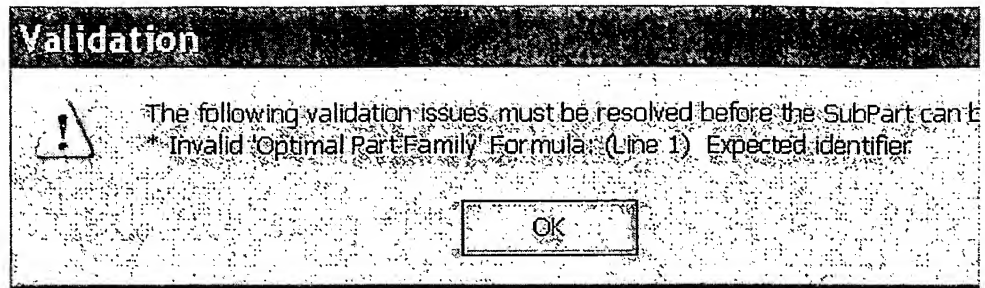
Cause: Occurs when the user enters a new Subpart and tries to save without entering Exists When Formula.

Resolution:

1. Click on OK.
2. Enter a valid exists when formula.
3. Click on Save  again.


Invalid "Optimal Part Family" Formula

Message:



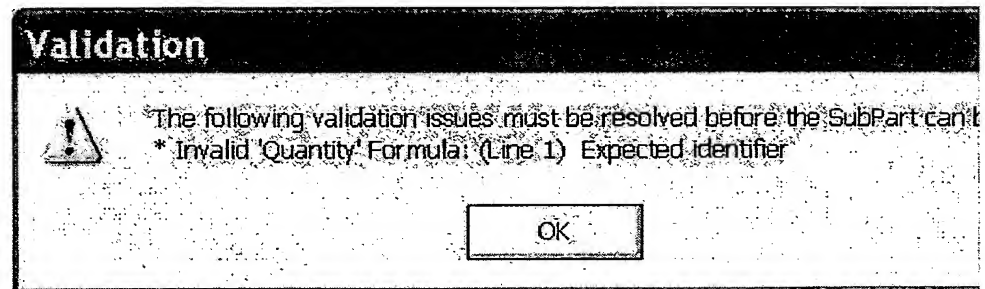
Cause: Occurs when the user enter an invalid "Optimal Part Family" Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.


Invalid Quantity Formula

Message:

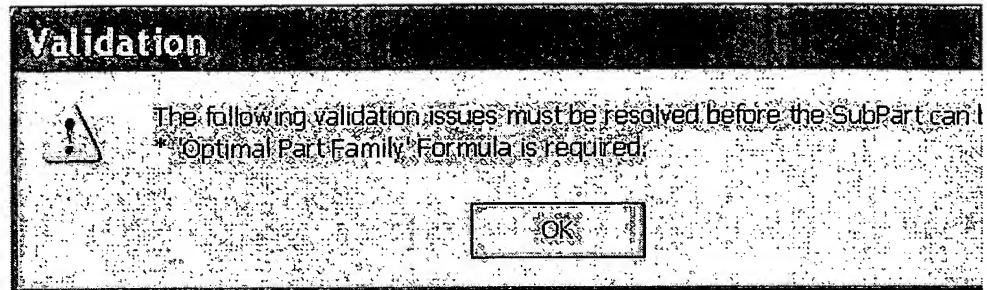


Cause: Occurs when the user enter an invalid Quantity Formula.

Resolution:


1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.

Subparts - Optimal Part Family Formula is required

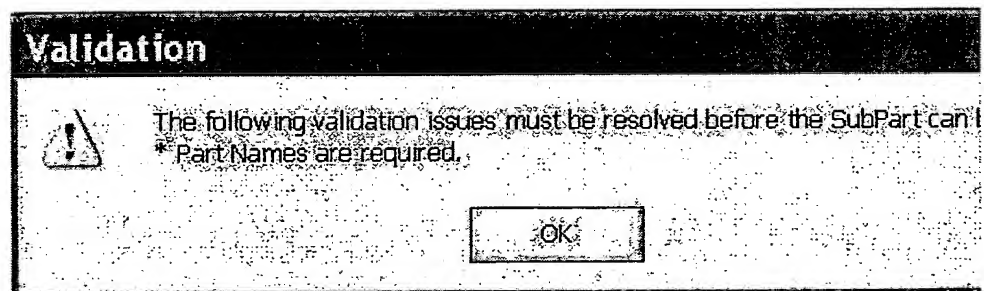
Message:**Cause:**

Occurs when the user enters a new Subpart and tries to save without entering Optimal Part Family Formula.

Resolution:


1. Click on OK.
2. Enter a valid optimal part family formula.
3. Click on Save  again.

Subparts - Part Names are required

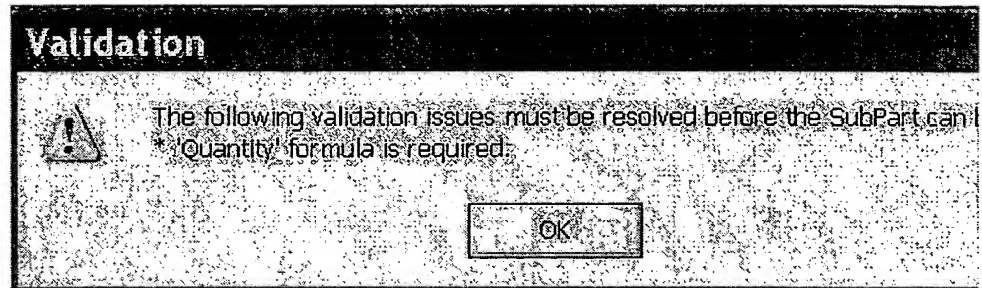
Message:**Cause:**

Occurs when the user enters a Static Subpart and tries to save the entry without adding Part Names in the Constraint.

Resolution:


1. Click on OK.
2. Enter valid Part Names.
3. Click on Save  again.

Subparts - Quantity Formula is required

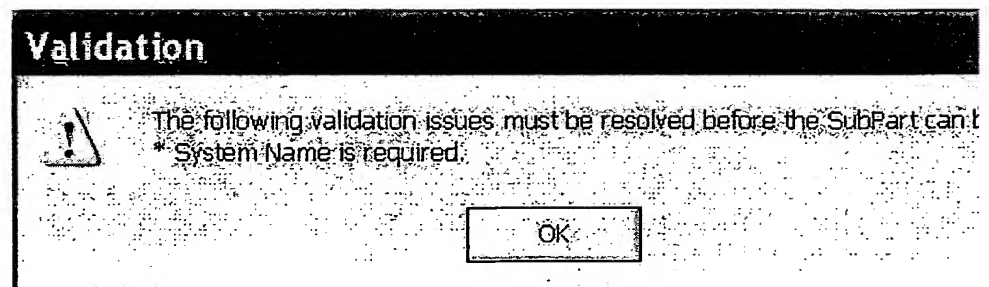
Message:**Cause:**

Occurs when the user enters a new Quantity Driven Subpart and tries to save without entering a Quantity Formula.

Resolution:


1. Click on OK.
2. Enter a valid quantity formula.
3. Click on Save  again.

Subpart - System Name is required

Message:

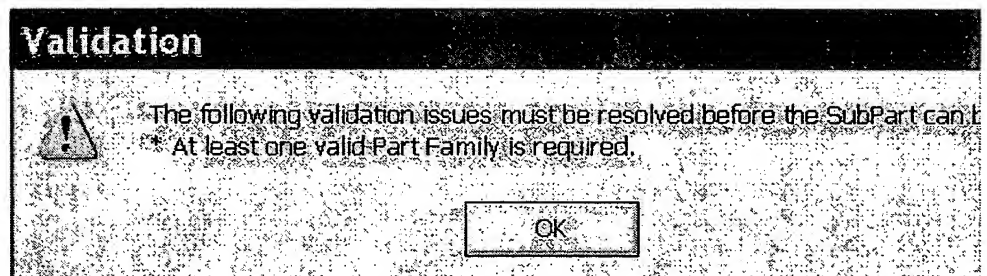
Cause: Occurs when the user enters a new Subpart and tries to save without entering System Name.

Resolution:

1. Click on OK.
2. Enter a valid System Name.
3. Click on Save  again.


Subparts - At least one valid Part Family is required

Message:



Cause: Occurs when the user enters a Subpart and tries to save without selecting a Valid Part Family.

Resolution:

1. Click on OK.
2. Select a Valid Part Family from the list.
3. Click on Save  again.

Property Error Messages

Select the specific error to display the message, cause and resolution.

Property - Cannot Delete Bound Property

Property - Constraint Formula Required

Property - Data Type Required

Property - Display Name Required

Property - Duplicate Display Name

Property - Duplicate System Name

Property - Invalid Valid Values Formula

Property - Invalid User Interface Formula

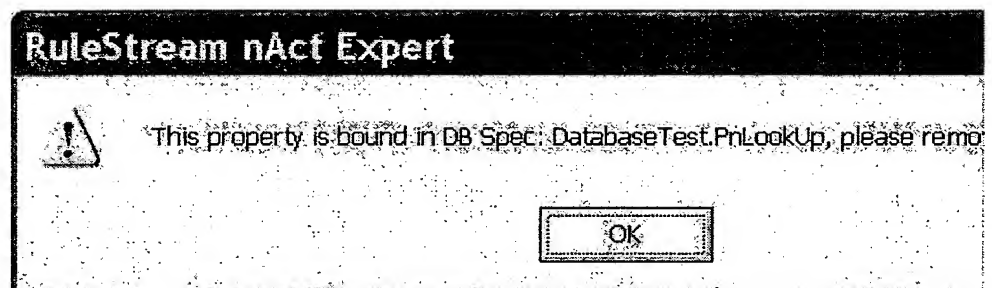
Property - Maximum value must be greater than the Minimum value

Property - Minimum & Maximum Values must be different

Property - System Name Required

**Property - This property is bound in DB Spec:
'PartFamilyName.DBSpecName', please remove before
continuing.**

Message:

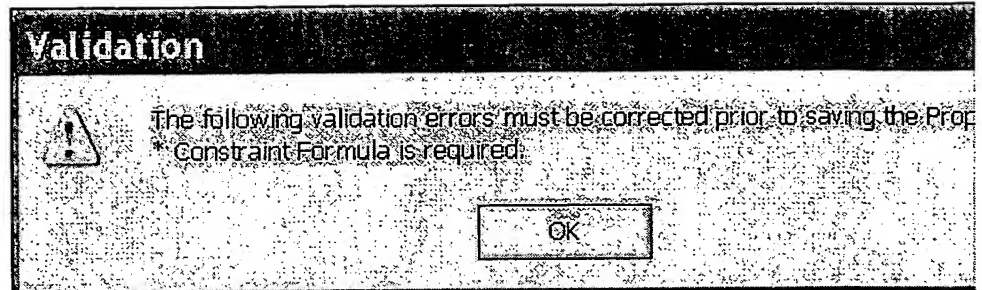


Cause: Occurs when the user tries to delete a property that is being used in the binding

Resolution:


1. Click on OK.
2. Go to the specified DB Spec and remove the property from the binding in
OR
3. Do not delete the property.

Property - Constraint Formula is required

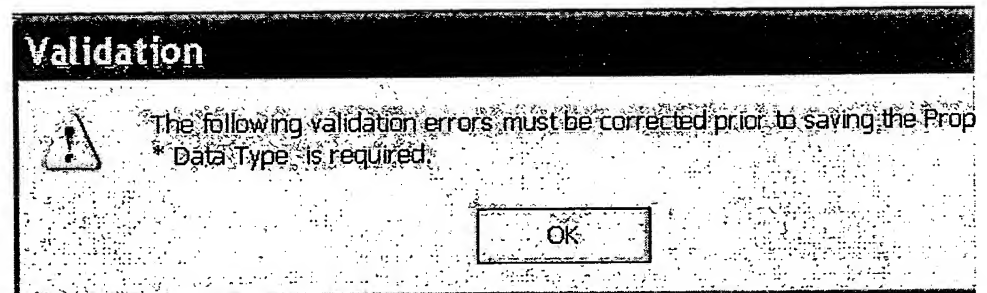
Message:**Cause:**

Occurs when the user enters a Property and tries to save without entering a C Formula.

Resolution:

1. Click on OK.
2. Enter a valid constraint formula.
3. Click on Save  again.


Property - Data Type is required

Message:**Cause:**

Occurs when the user enters a Property and tries to save it without selecting . Type from the drop down list.

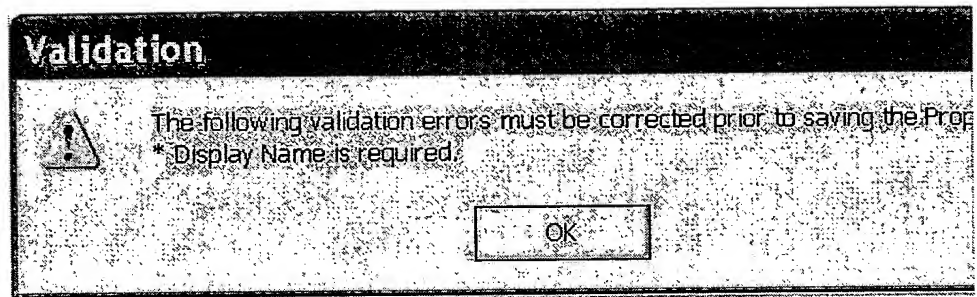
Resolution:

1. Click on OK.
2. Select a Data Type from the drop down list.

3. Click on Save  again.


Property - Display Name is required

Message:



Cause: Occurs when the user enters a new Property and tries to save without entering Display name.

Resolution:

1. Click on OK.
2. Enter a Display Name.
3. Click on Save  again.


Property - A Property with the display name 'ABC' already exists for this Part Family

Message:



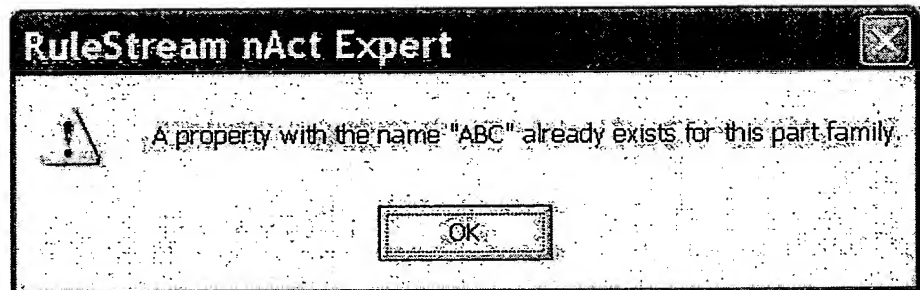
Cause: Occurs when the user enters a Property with a Display Name that has already exists in the database.

Resolution:

1. Click on OK.
2. Enter a different Display Name.
3. Click on Save  again.


Property - A Property with the name 'ABC' already exists for this Part Family

Message:



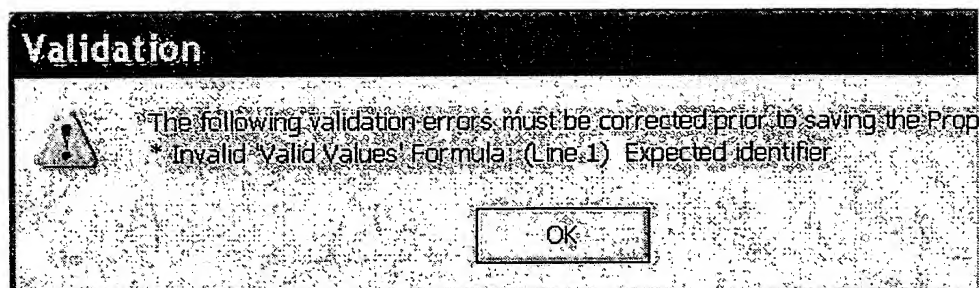
Cause: Occurs when the user enters a Property with a System Name that has already exists in the database.

Resolution:

1. Click on OK.
2. Enter a different System Name.
3. Click on Save  again.


Property - Invalid Valid Values Formula

Message:



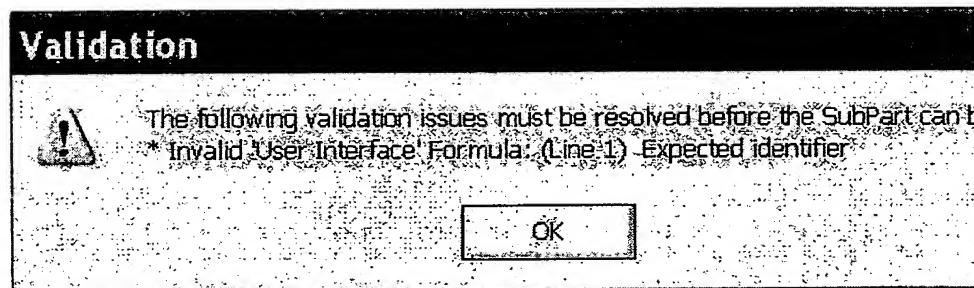
Cause: Occurs when the user enter an invalid Valid Values Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.

Property - Invalid User Interface Formula


Message:



Cause: Occurs when the user enter an invalid User Interface Formula.

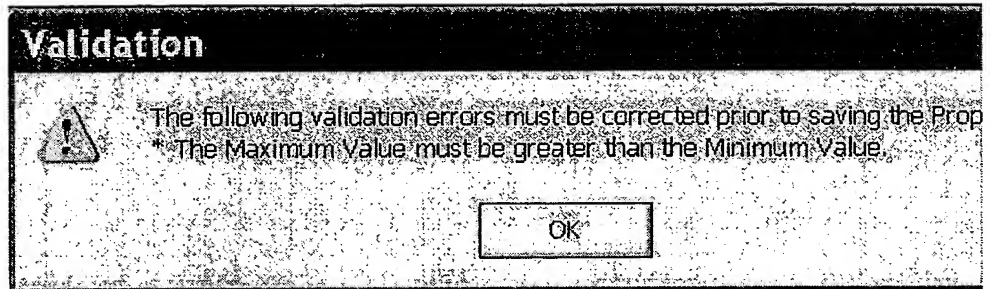
Resolution:

1. Click on OK.


2. Enter a valid formula.
3. Click on Save  again.

Property - The Maximum Value must be greater than the Minimum Value

Message:

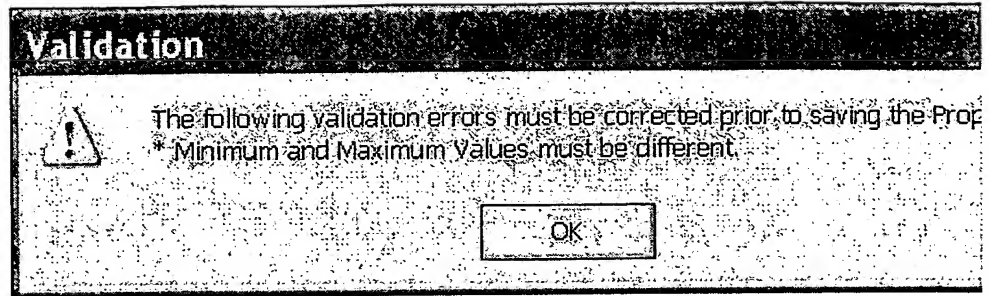


Cause: Occurs when the user enter a maximum value that is not greater than the minimum value.

- Resolution:**
1. Click on OK.
 2. Enter a maximum value that is greater than the minimum value.
 3. Click on Save  again.


Property - Minimum and Maximum Values must be different

Message:



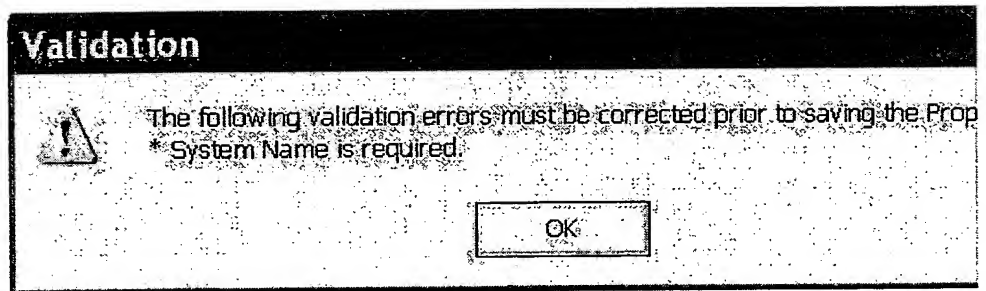
Cause: Occurs when the user enter the same value in the Minimum and Maximum f

Resolution:

1. Click on OK.
2. Enter a different minimum and/ or maximum value.
3. Click on Save  again.


Property - System Name is required

Message:



Cause: Occurs when the user enters a new Property and tries to save without enterin System name.

Resolution:

1. Click on OK.
2. Enter a valid System Name.
3. Click on Save  again.

Connection Error Messages

Select the specific error to display the message, cause and resolution.

Connection - Connection Type Required

Connection - Display Name Required

Connection - Duplicate Display Name

Connection - Duplicate System Name

Connection - Invalid Parts Formula

Connection - Invalid Valid Parts Formula

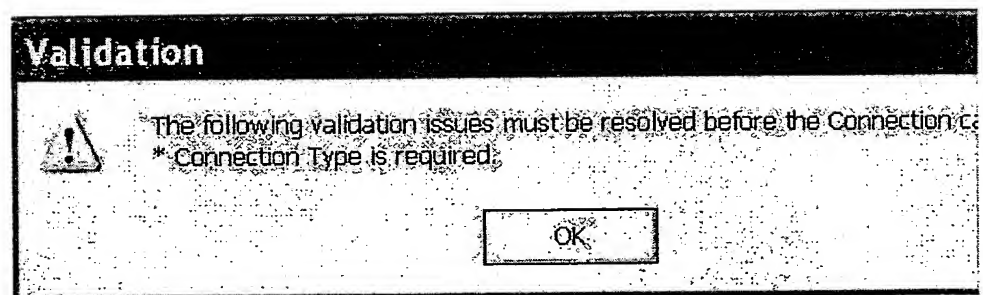
Connection - Part Formula Required

Connection - System Name Required

Connection - Valid Part Family Required

Connection - Connection Type is required


Message:



Cause:

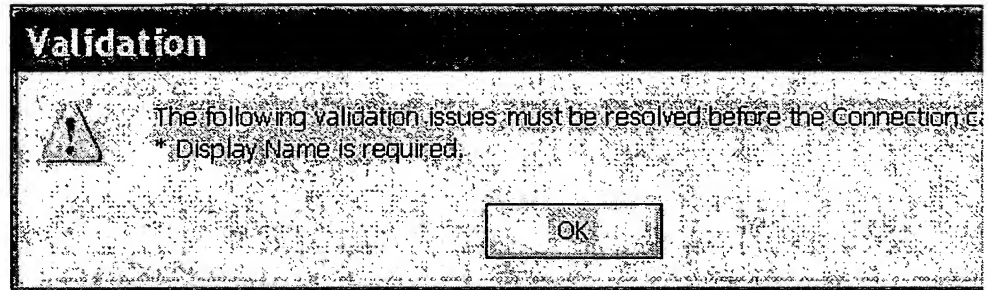
Occurs when the user enters a Connection and tries to save it without selecting a Connection Type.

Resolution:

1. Click on OK.
2. Select a Connection Type from the drop down list.
3. Click on Save  again.

Connection - Display Name is required


Message:



Cause:

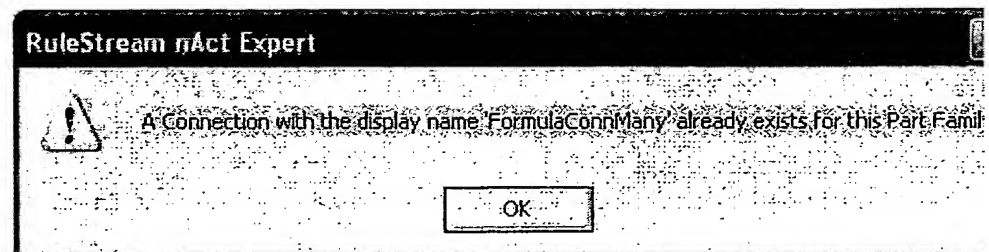
Occurs when the user enters a Connection and tries to save without entering name.

Resolution:

1. Click on OK.
2. Enter a valid Display Name.
3. Click on Save  again.


Connection - A Connection with the display name 'ABC' already exists for this Part Family

Message:



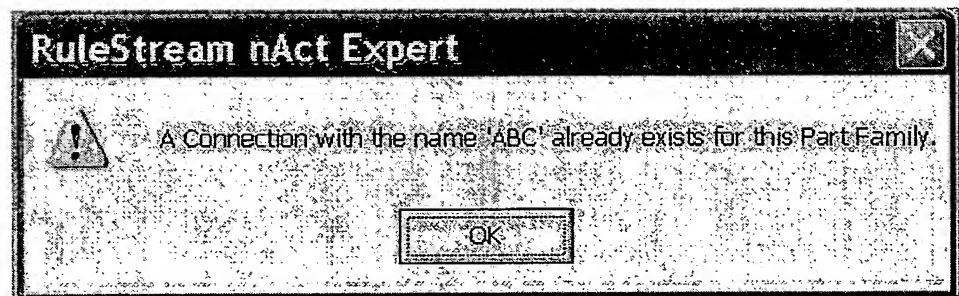
Cause: Occurs when the user enters a Connection with a Display Name that has already exists in the database.

Resolution:

1. Click on OK.
2. Enter a different Display Name.
3. Click on Save  again.


Connection - A Connection with the name 'ABC' already exists for this Part Family

Message:



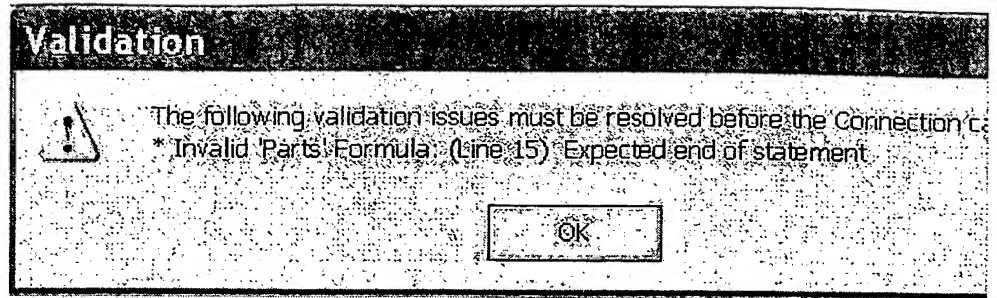
Cause: Occurs when the user enters a Connection with a System Name that has already exists in the database.

Resolution:

1. Click on OK.
2. Enter a different System Name.
3. Click on Save  again.


Connection - Invalid Parts Formula

Message:



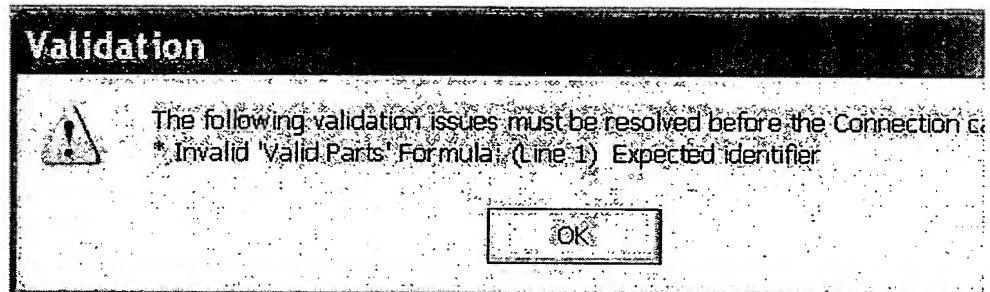
Cause: Occurs when the user enter an invalid Parts Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.


Connection - Invalid Valid Part Formula

Message:



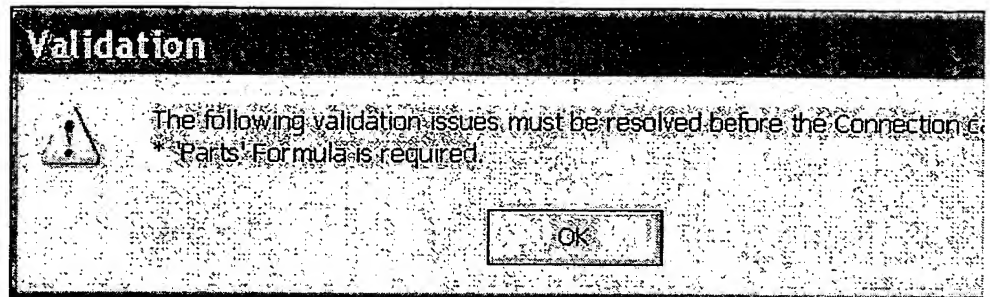
Cause: Occurs when the user enter an invalid Valid Parts Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.


Connection - Parts Formula is required

Message:



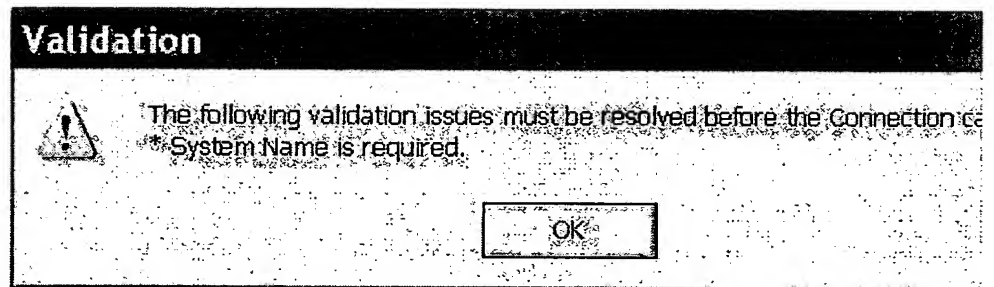
Cause: Occurs when the user enters Connection and tries to save without entering a Formula.

Resolution:

1. Click on OK.
2. Enter a valid parts formula.
3. Click on Save  again.


Connection - System Name is required

Message:



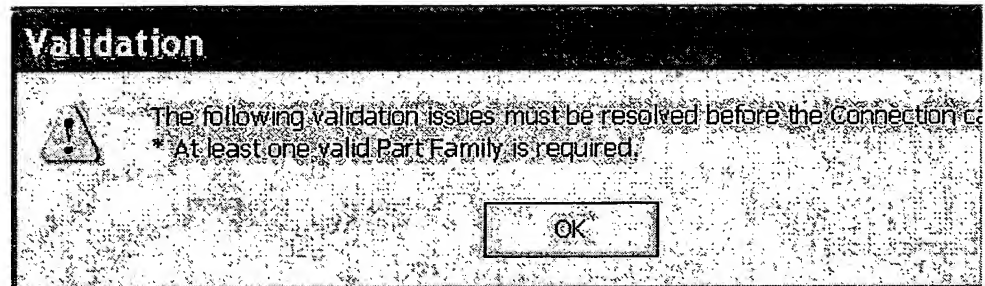
Cause: Occurs when the user enters a Connection and tries to save without entering a name.

Resolution:

1. Click on OK.
2. Enter a valid System Name.
3. Click on Save  again.

Connection - At least one valid Part Family is required


Message:



Cause:

Occurs when the user enters a Connection and tries to save without selecting Part Family.

Resolution:

1. Click on OK.
2. Select a Valid Part Family from the list.
3. Click on Save  again.

Database Error Messages

Select the specific error to display the message, cause and resolution.

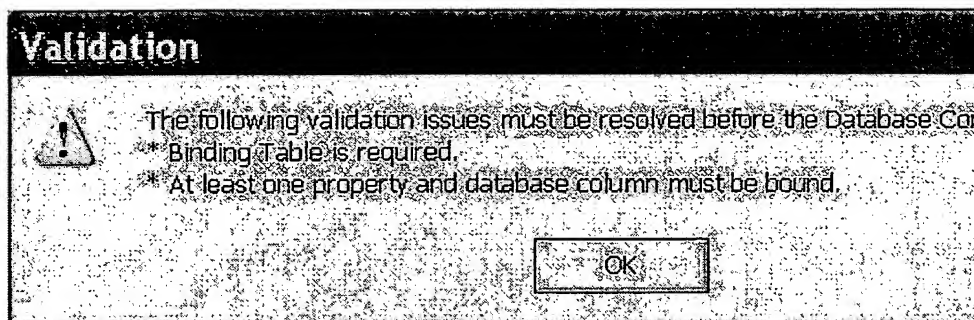
Database - Binding Table Required

Database - Display Name Required

Database - Duplicate Display Name


Database - Duplicate System Name

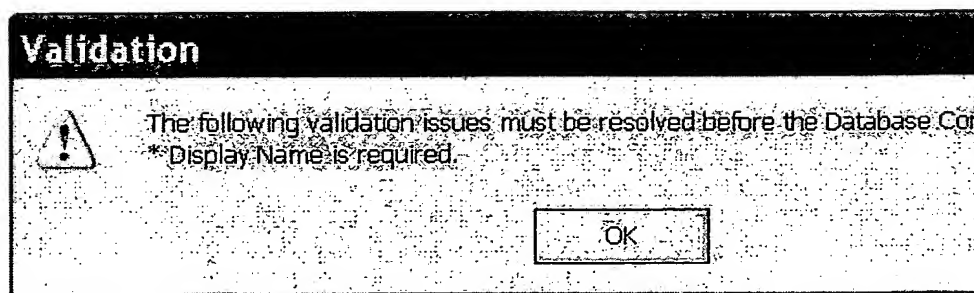
Database - Select Property & Database Column

Database - System Name Required**Database - Binding Table is required error message****Message:****Cause:**


Occurs when the user enters a Database Constraint and tries to save without Table.

Resolution:

1. Click on OK.
2. Select a Table and Sort Column from the applicable drop downs lists.
3. Click on Save  again.

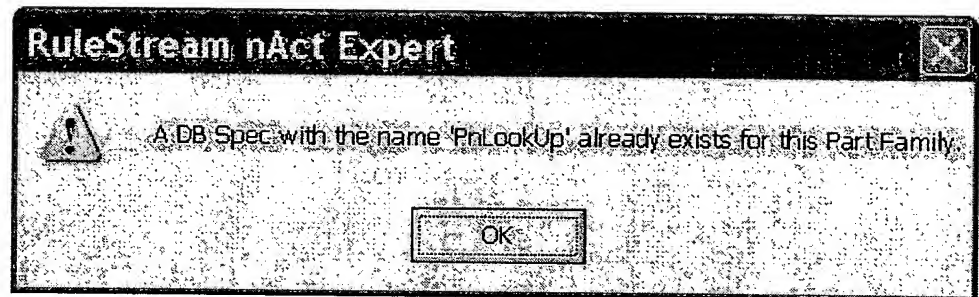
Database - Display Name is required**Message:****Cause:**

Occurs when the user enters a Database and tries to save without entering the


- Resolution:**
1. Click on OK.
 2. Enter a valid Display Name.
 3. Click on Save  again.

Database - A DB Spec with the display name 'ABC' already exists for this Part Family

Message:



Cause: Occurs when the user enters a Database with a Display Name that already exists in the database.

- Resolution:**
1. Click on OK.
 2. Enter a different Display Name.
 3. Click on Save  again.


Database - A DB Spec with the name 'ABC' already exists for this Part Family

Message:



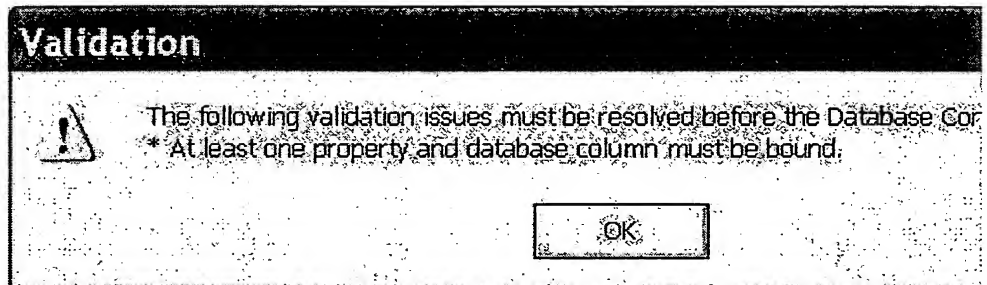
Cause: Occurs when the user enters a Database with a System Name that already exists in the database.

Resolution:

1. Click on OK.
2. Enter a different System Name.
3. Click on Save  again.


Database - At least one property and database column must be bound

Message:



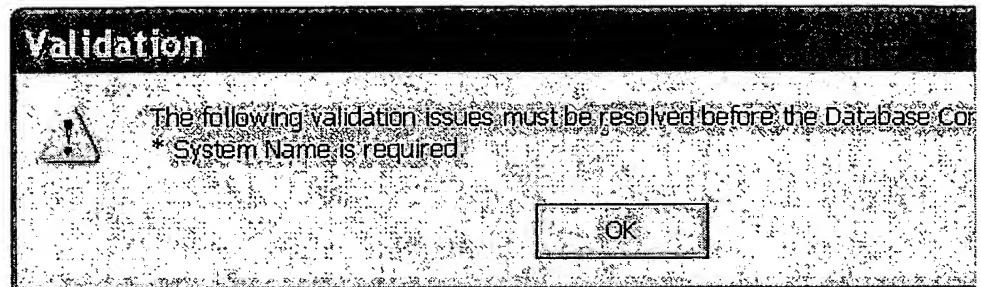
Cause: Occurs when the user enters a Database Constraint and tries to save selecting database column for binding.

Resolution:

1. Click on OK.
2. Select a Property and Column from the applicable drop downs in the Ad
3. Click on Save  again.


Database - System Name Required

Message:



Cause: Occurs when the user enters a Database and tries to save without entering the

Resolution:

1. Click on OK.
2. Enter a valid System Name.
3. Click on Save  again.

Geometry Error Messages

Select the specific error to display the message, cause and resolution.

Geometry - Invalid Component Name Formula

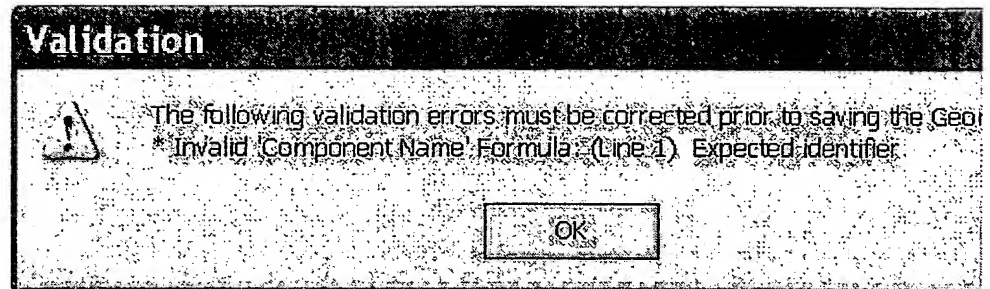
Geometry - Invalid Optimal Part File Formula

Geometry - Optimal Part File Formula Required

Geometry - Valid Part File Required


Invalid Component Name Formula

Message:



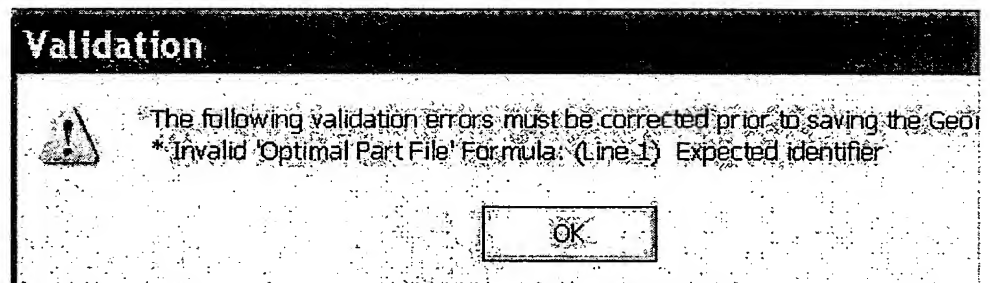
Cause: Occurs when the user enter an Invalid Component Name Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.


Invalid Optimal Part File Formula

Message:



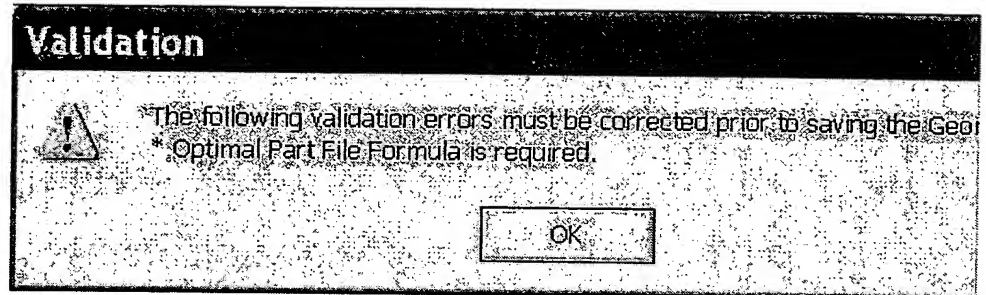
Cause: Occurs when the user enter an Invalid Optimal Part File Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.

Geometry - Optimal Part File Formula is required


Message:



Cause:

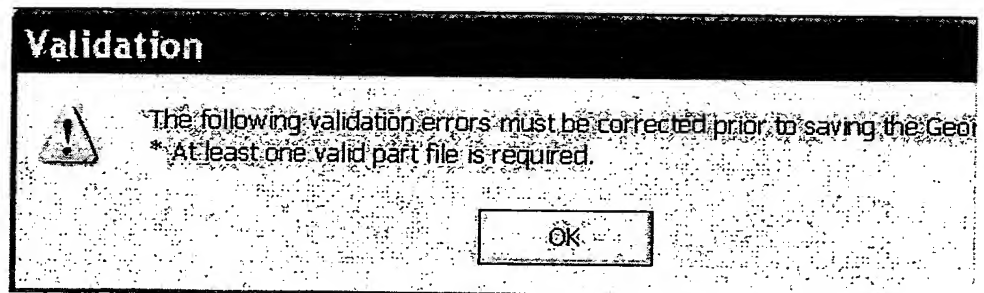
Occurs when the user enters Geometry and tries to save without an optimal part formula.

Resolution:

1. Click on OK.
2. Enter a valid optimal part file formula.
3. Click on Save  again.


Geometry - At least one valid part file is required

Message:



Cause:

Occurs when the user enters Geometry and tries to save without selecting a valid part file.

- Resolution:**
1. Click on OK.
 2. Select a Valid Part File from the list.
 3. Click on Save  again.

2D Schematic Error Messages

Select the specific error to display the message, cause and resolution.

Schematic Pages - Page Name Must Be Unique

Schematic Pages - Page Name Required

Schematic Property - Connection must be selected

Schematic Property - Data Type Required

Schematic Property - Display Name Required

Schematic Property - System Name Required

Schematic Spec - Dropped On Required

Schematic Spec - Move Error

Schematic Spec - Resize Error

Schematic Spec - Rotate Error

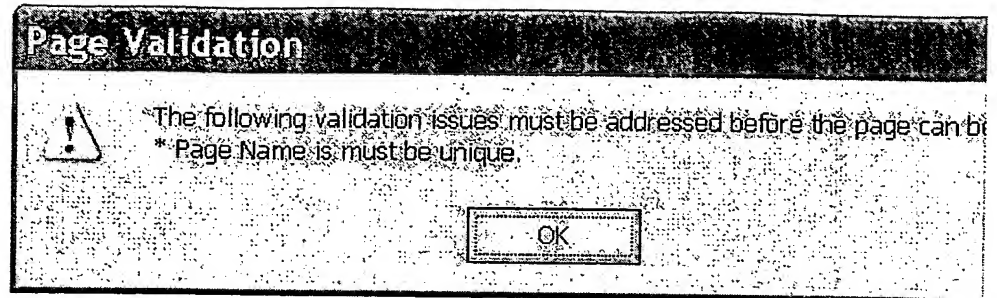
Schematic Spec - Schematic Page Required

Schematic Spec - Schematic Template Required

Schematic Spec - Set Connection or Target Glue Property

Schematic Spec - Valid Connection Error

Schematic Pages - Page Name Must Be Unique

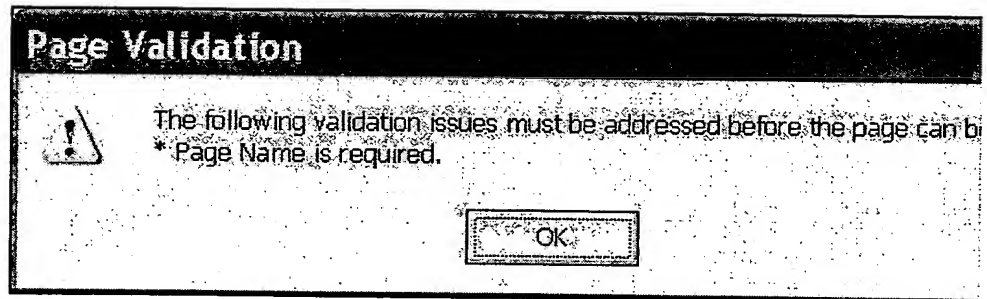
Message:**Cause:**

Occurs when the user enters a Page Name that already exists and tries to save Schematic Page.

Resolution:

1. Click on OK.
2. Enter a different Page Name.
3. Click on Save again.

Schematic Page - Page Name Required

Message:**Cause:**

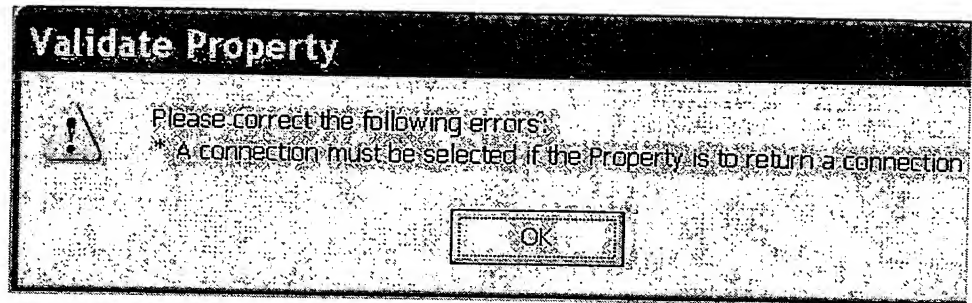
Occurs when the user enters tries to save the Schematic page without entering Page Name.

Resolution:

1. Click on OK.
2. Enter the Page Name.
3. Click on the Save button again.

Schematic Property - Select Connection

Message:



Cause:

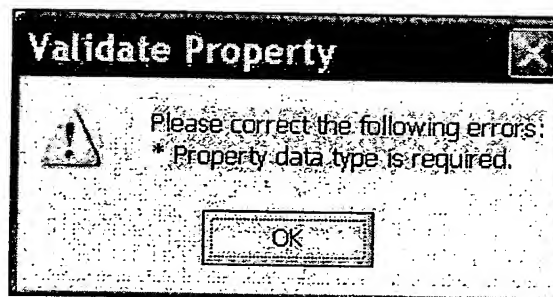
Occurs when the user is adding a Schematic Property and selects the "Property returns a connection name" check box but does not select a connection from drop down list.

Resolution:

1. Click on OK.
2. Select a connection from the list.
3. Click on Add again.

Schematic Property - Data Type is Required

Message:



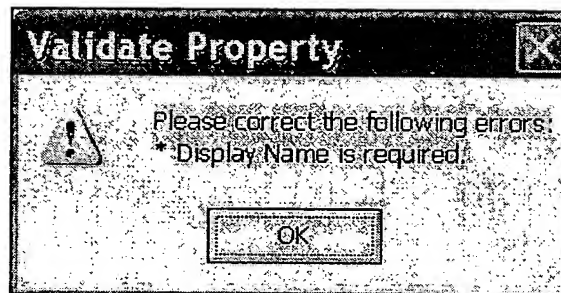
Cause:

Occurs when the user enters a schematic property and tries to "Add" without selecting the Data Type.

- Resolution:**
1. Click on OK.
 2. Select the applicable Data Type from the list.
 3. Click on the Add button again.

Schematic Property - Display Name is Required

Message:



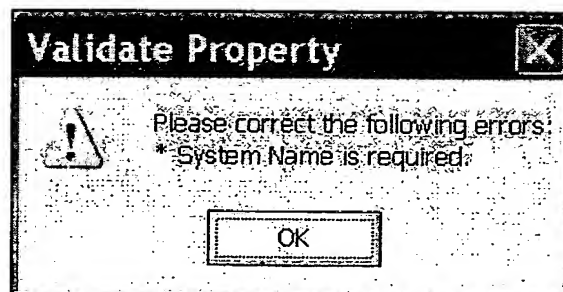
Cause:

Occurs when the user enters a schematic property and tries to "Add" without entering the Display name.

- Resolution:**
1. Click on OK.
 2. Enter the Display Name.
 3. Click on the Add button again.

Schematic Property - System Name is Required

Message:



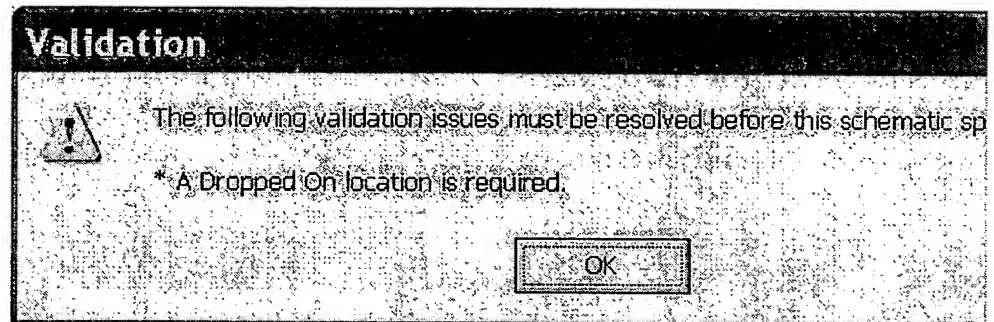
Cause: Occurs when the user enters a schematic property and tries to "Add" without entering the System name.

Resolution:

1. Click on OK.
2. Enter the System Name.
3. Click on the Add button again.


Schematic Spec - Dropped On Required

Message:



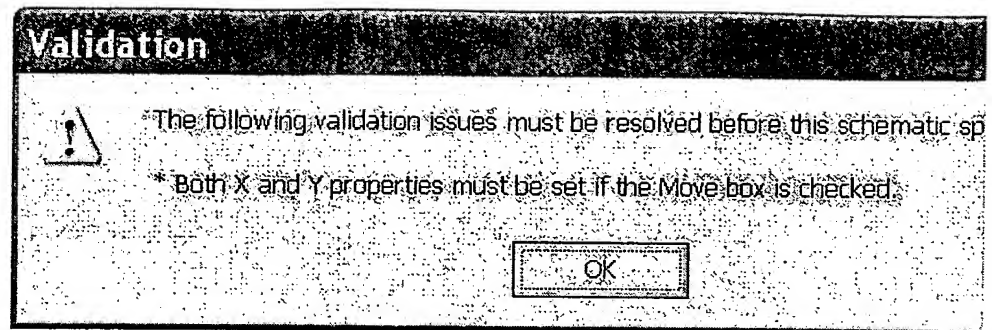
Cause: Occurs when the user enters a schematic spec and tries to save without selecting options in the Dropped On field.

Resolution:

1. Click on OK.
2. Select Page, Parent or Connection (will also need to select the connection)
3. Click on Save  again.


Schematic Spec - Both X and Y properties must be set if the Move box is checked

Message:



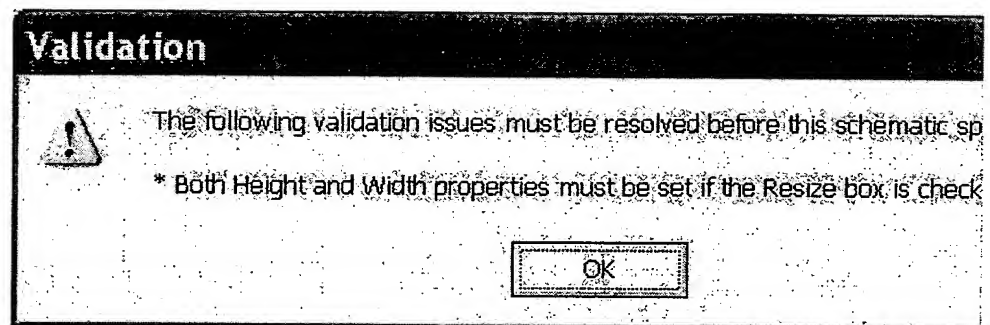
Cause: Occurs when the user checks the Move box and doesn't select the X and Y p

Resolution:

1. Click on OK.
2. Select the X and Y properties from the drop down lists.
3. Click on Save  again.


Schematic Spec - Both Height and Width properties must be set if the Resize box is checked

Message:



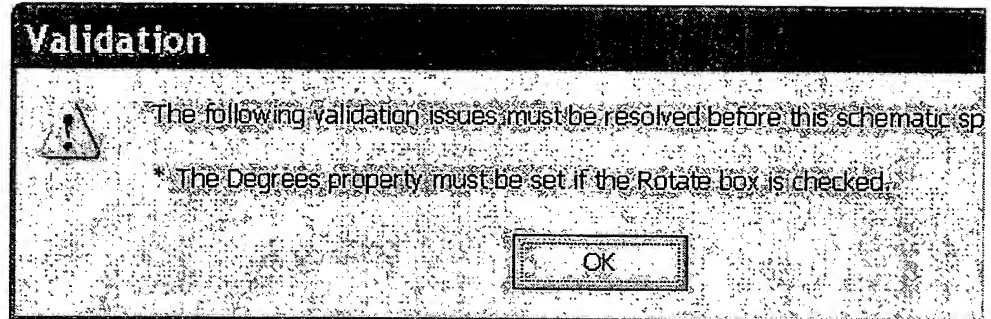
Cause: Occurs when the user checks the Resize box and doesn't select the Height an properties.

Resolution:

1. Click on OK.
2. Select the Height and Width properties from the drop down lists.
3. Click on Save  again.


Schematic Spec - The Degrees property must be set if the Rotate box is checked

Message:



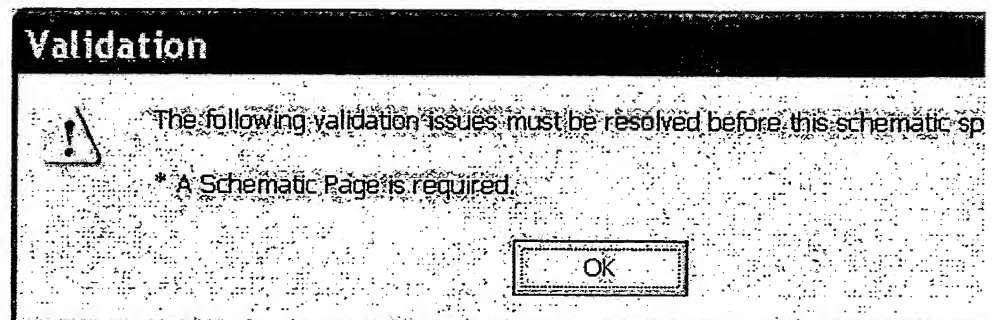
Cause: Occurs when the user checks the Rotate box and doesn't select the Degrees p

Resolution:


1. Click on OK.
2. Select the Degrees property from the drop down lists.
3. Click on Save  again.

Schematic Spec - Schematic Page Required

Message:

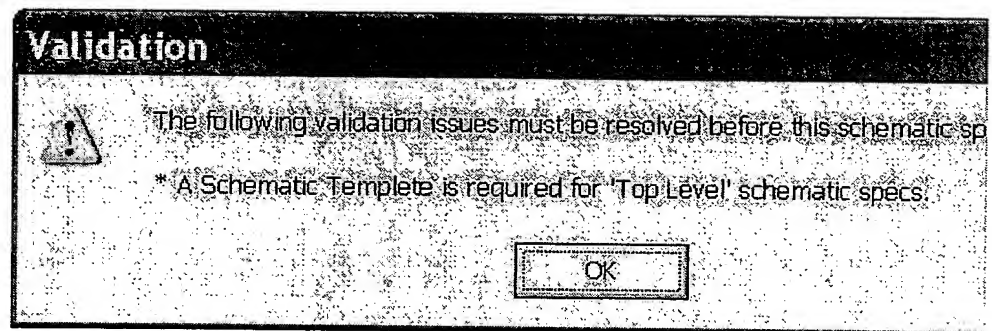


Cause: Occurs when the user tries to save a new schematic spec without selecting a from the list.

- Resolution:**
1. Click on OK.
 2. Select a schematic page from the drop down list.
 3. Click on Save  again.

Schematic Spec - Schematic Template is required

Message:

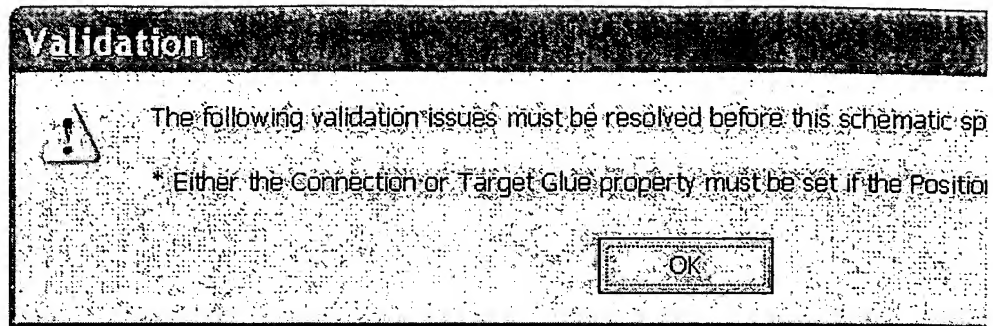


Cause: Occurs when the user enters a new schematic spec and tries to save the spec selected the schematic template on the top level part family.

- Resolution:**
1. Click on OK.
 2. Go to the top level part family, select the schematic spec or add a schematic spec, select the schematic template, select Page Part, click on Save.
 3. Go back and add the schematic spec that was being entered prior to this error.


Schematic Spec - Either the Connection or Target Glue property must be set if the Positioning Connection box is checked

Message:



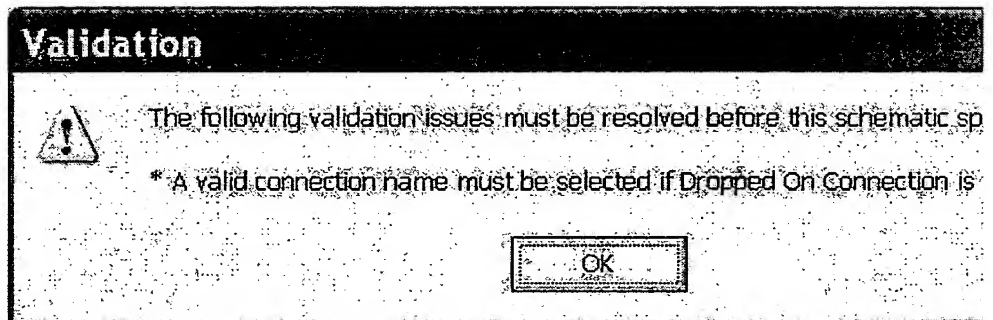
Cause: Occurs when the user checks the Positioning Connection box and doesn't set Target Glue properties.

Resolution:

1. Click on OK.
2. Select the Connection and Target Glue properties from the drop down list.
3. Click on Save  again.


Schematic Spec - A valid connection name must be selected if Dropped On Connection is selected

Message:



Cause: Occurs when the user selects the Connection button and doesn't select the co

Resolution:

1. Click on OK.
2. Select the connection name the drop down list.
3. Click on Save  again.

Process Step Error Messages

Click on any of the following Process and/or Process Step errors that may occur to display the message, cause and resolution of the error.

Process Name Required

Process Step - Name Required

Process Step - 2DView Name Required

Process Step - 3D View Name Required

Process Step - Category Required

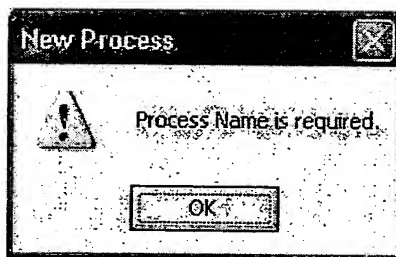
Process Step - Must Select Category

Process Step - Must Select Element for Frame

Process Step - Must Select Part Family

Process Name Required

Message:



Cause:

Occurs when user tries to save a Process without entering something in the Name field..

Resolution:

1. Click on OK.
2. Type in a name for the process and click on Save again.

Process Step Name Required

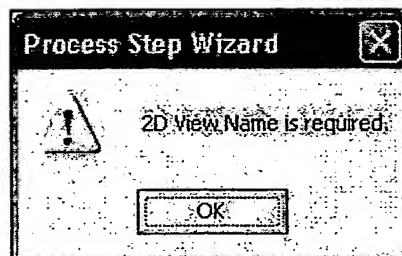
Message:**Cause:**

Occurs when user tries to save a Process Step without entering something in the Name field.

Resolution:

1. Click on OK.
2. Type in a name for the process step and click on Next again.

Process Step -

Message:

Occurs when user clicks on the "Next" button from the 2D Schematic

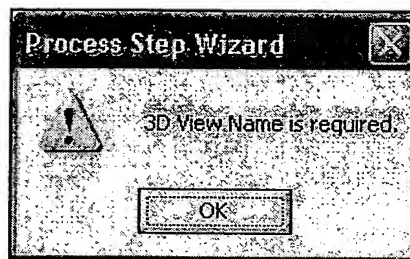
Cause: Viewer window without entering the view name.

Resolution:

1. Click on OK.
2. Enter the view name and click on Next again.

Process Step -

Message:



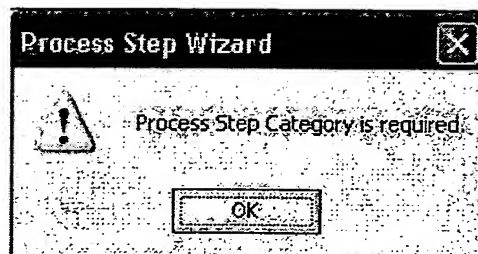
Cause: Occurs when user clicks on the "Next" button from the 3D Geometry Viewer window without selecting the view name.

Resolution:

1. Click on OK.
2. Select the view name and click on Next again.

Process Step - Category is required

Message:

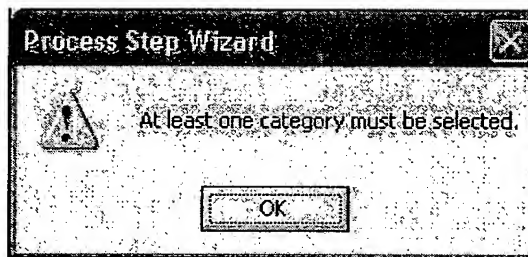


Occurs when user clicks on the "Next" button from the Part Family

- Cause:** Name and Description window without selecting a category for the process step.
- Resolution:**
1. Click on OK.
 2. Select a category from the list and click on the Next button again.

Process Step - Must select a category

Message:



- Cause:** Occurs when user clicks on the next button without at least one category from the list of available categories in the Part Family Categories window.

- Resolution:**
1. Click on OK.
 2. Select the applicable category from the list and click on Next again

Process Step - Select a user interface for Frame #.

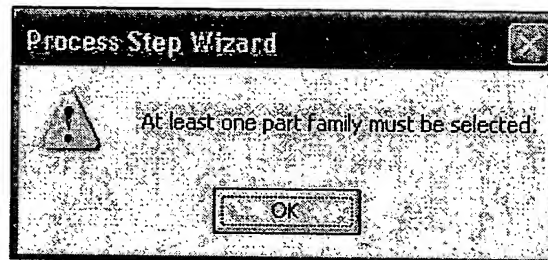
Message:



- Cause:** Occurs when user clicks on the "Next" button from the Layout and Contents window without selecting a user interface element on the frame for the process step.
- Resolution:**
1. Click on OK.
 2. Select a item from the list and click on the Next button again.

Process Step - Must select a part family.

Message:



- Cause:** Occurs when user clicks on the next button without selecting a part family from the tree in the Part Families window.
- Resolution:**
1. Click on OK.
 2. Select the applicable part family (ies) from the tree and click on Next again.

Miscellaneous Error Messages

Select the specific error to display the message, cause and resolution.

Misc - Invalid Exists When Formula

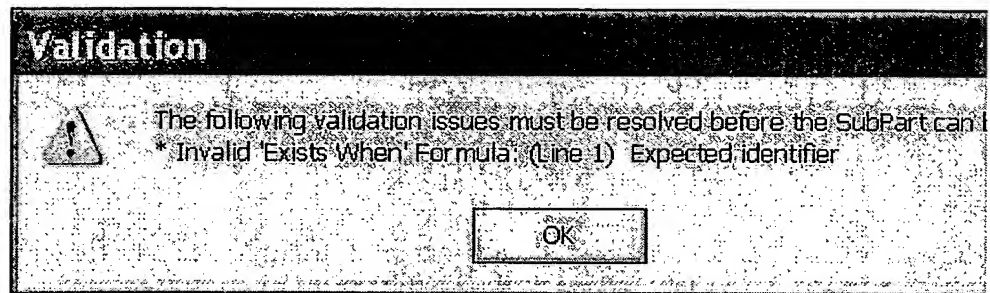
Misc - Invalid Formula

Misc - Invalid When Changed Formula

Misc - Reserved Word Error


Invalid "Exists When" Formula

Message:



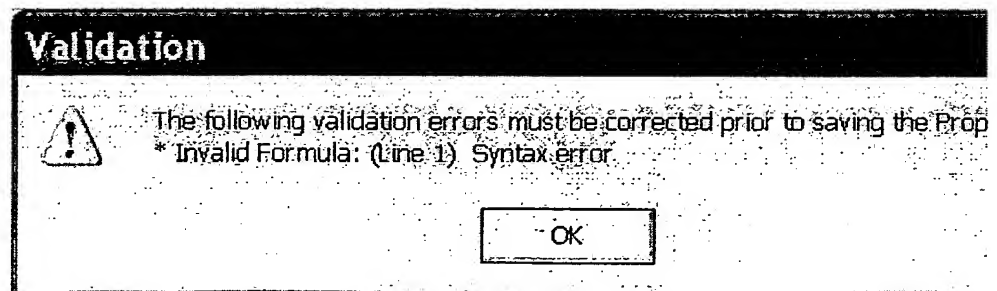
Cause: Occurs when the user enter an invalid "Exists When" Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.


Invalid Formula

Message:



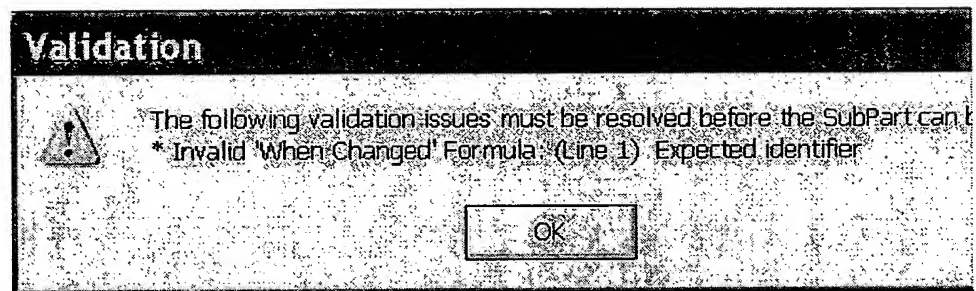
Cause: Occurs when the user enter an Invalid Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.


Invalid "When Changed" Formula

Message:



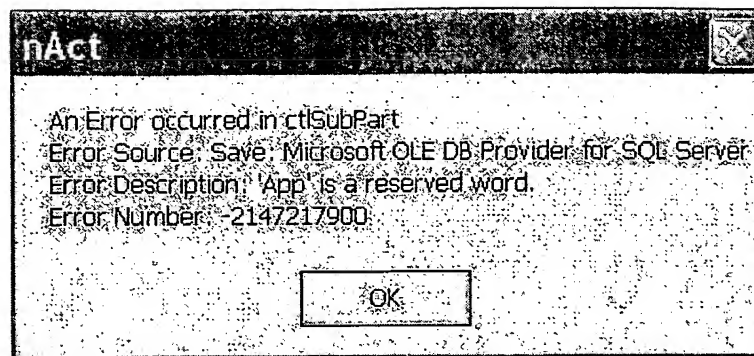
Cause: Occurs when the user enter an invalid "When Changed" Formula.

Resolution:

1. Click on OK.
2. Enter a valid formula.
3. Click on Save  again.


Reserved Word Error

Message:



Cause: Occurs when the user tries to save form where they have used a Reserved Word.

Resolution:

1. Click on OK.
2. Enter a new name.
3. Click on Save  again.